

## **DEPARTMENT OF DEFENSE APPROPRIATIONS FOR FISCAL YEAR 2006**

**TUESDAY, MAY 10, 2005**

U.S. SENATE,  
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,  
*Washington, DC.*

The subcommittee met at 10:07 a.m., in room SD-192, Dirksen Senate Office Building, Hon. Ted Stevens (chairman) presiding.  
Present: Senators Stevens, Inouye, and Mikulski.

### **DEPARTMENT OF DEFENSE**

#### **MEDICAL PROGRAMS**

#### **STATEMENT OF LIEUTENANT GENERAL KEVIN C. KILEY, M.D., SURGEON GENERAL, DEPARTMENT OF THE ARMY**

##### **OPENING STATEMENT OF SENATOR TED STEVENS**

Senator STEVENS. My apologies, gentlemen. Too many telephones and e-mails. It is one of those things.

We do welcome you to our hearing today to review the Department of Defense (DOD) medical programs. We have two panels scheduled. First, we will hear from the Surgeons General, followed by the Chiefs of the Nursing Corps. Joining us today from the Army, we have Surgeon General Kevin Kiley and Admiral Donald Arthur from the Navy. We welcome you both in your first hearing before us and look forward to working with you closely. We welcome back General Peach Taylor from the Air Force.

The President's fiscal year 2006 request for the defense health program is \$19.8 billion, an 8.9 percent increase over fiscal year 2005. The request provides for health care for over 8.9 million beneficiaries and the operation of 70 inpatient facilities and 1,085 clinics.

Despite the increase for this year's funding, the subcommittee remains concerned that the funding may not be sufficient to meet all of the requirements. We recognize that the continuing conflict in Iraq and the global war on terrorism, along with rising costs of prescription drugs and related medical services, will continue to strain your financial resources requested in this budget. And they will place a demand on our medical service providers, both those deployed in combat and those manning the posts here at home.

Senator Inouye and I are familiar with the value of military medicine, and we are interested in hearing from you regarding continuing operations.

Let me yield to my good friend from Hawaii.

STATEMENT OF SENATOR DANIEL K. INOUE

Senator INOUE. Thank you very much, Mr. Chairman. I want to join you in welcoming our witnesses this morning as we review the state of the Department's medical programs. General Taylor, we welcome you back to our subcommittee.

It is our hope that this hearing will spotlight the numerous medical advances achieved by the men and women of the medical corps and also accelerate improvement and progress where it might be needed. The chairman and I, since World War II, have followed the advances in personnel protection and combat casualty care which have changed the fate of thousands of our military men and women.

The improvements in battlefield protection and combat care have given our military the lowest level of combat deaths in history. While there is still regrettable loss of life in Iraq and Afghanistan, the fact that we are saving hundreds of lives, which could not have been saved in past military operations, is proof that these advances are paying off. Several factors contribute to this change, and we have read your testimony and you have outlined several of them, including medical training and facilities operated by the services.

The training our medical personnel can receive cannot be equated with the private sector. One cannot deny that there are major differences in the medical requirements of our men and women serving in the military to the care required in your average civilian hospital. The personnel training and facilities of our medical system are all part of the elaborate network that feed off each other. Today these pieces are all connected and are continuing to make historic advances. However, it appears that this system could be on a brink of destruction.

We have been told that there is a chance that the Uniformed Services University of Health Sciences and Walter Reed Medical Center are potential targets for the base realignment and closure (BRAC). I hope not, because I believe this would be a tragic mistake. Our military medical facilities are essential to winning the global war on terrorism, and as you may know, the Senate included language in the supplemental conference report directing that funding available to the Department of Defense should not be used to close any military medical facility which is conducting critical medical research or medical training or caring for wounded soldiers. It is our hope that this message is received by the Department loud and clear before the BRAC list is compiled.

As a footnote to all of this, the chairman and I have, throughout the years, visited with our troops, and in each visit, we find that the major concern of all of them has been health care. Is my wife being cared for? Are the pediatricians working on my child? And I think we should keep in mind that there are many men and women who enlist because of the availability of health care.

It is no secret that we are having problems at this time in recruiting and retaining, and if we take this benefit away, then I think we will have real problems. So we look forward to discussing this and many other issues that are crucial to the military medical system.

Once again, I would like to thank the chairman for continuing to hold hearings on these issues that are important to our military and their families. I thank you very much, Mr. Chairman.

Senator STEVENS. Yes, sir.

General Kiley, do you want to go first? We cannot figure out who should be first. Please, we would be glad to have your testimony.

General KILEY. Sir, I would be happy to.

Chairman Stevens, Senator Inouye, and distinguished members of the subcommittee, I am Lieutenant General Kevin Kiley, and I am honored to serve as the 41st Surgeon General of the United States Army.

Our medical department, our Army Medical Department (AMEDD), is at war in support of our Army, defending our great Nation in the global war on terrorism. Since September 2001, the Army has been involved in the most prolonged period of combat operations since Vietnam. One key indicator of the success of our medical training, doctrine, and leadership is our casualty survivability. During Vietnam, approximately 24 percent of all battle casualties died. As recently as Operation Desert Shield/Desert Storm, 22 percent of our battle casualties did not survive their wounds. In Operation Iraqi Freedom, less than 10 percent of these soldiers, marines, sailors, and airmen have died of their wounds.

This improved survivability is due to superior training of our combat medics, leveraging technology to provide resuscitative surgical care far forward on the battlefield, the superb efforts of the Air Force's critical care aeromedical evacuation teams, and the advanced research and state-of-the-art care available at our major medical centers such as Landstuhl, Walter Reed, Brooke, and Madigan, as well as other sister services.

This phenomenal improvement in survivability is also due to great teamwork on the part of the three services, the United States (U.S.) medical industry, and the Members of Congress who have supported numerous advancements in combat casualty care. On behalf of the Army, I would like to thank you for your tremendous support over the years and tell you how much I look forward to working with this subcommittee to improve even further our ability to sustain the health of the Army family, whether it be in combat or at camps, posts, and stations around the world in support of the global war on terrorism.

I would like to take a few minutes to explain how the entire Army Medical Department integrates its multiple functions to project and sustain a healthy and medically protected Army. We are most certainly an AMEDD at war. Since the spring of 2003, the Army has sustained a deployed population averaging 125,000 soldiers in Southwest Asia, while maintaining our global commitments around the world. We have mobilized more than 349,000 Reserve component soldiers.

The demands placed on the Army Medical Department to support this effort across the entire spectrum of operations is significant. To support the deployed force, more than 36,000 Army medics, physicians, nurses, dentists, allied health care professionals, health care administrators, and our enlisted personnel have deployed into Southwest Asia. Nearly 20,000 of these personnel are active duty component, and this total represents approximately half of the

Army's active medical end strength not involved in long-term training, our residencies and internships. Many of these soldiers are deploying for the second time in 4 years. On the battlefield, they have provided care to more than 21,000 injured or ill soldiers who were evacuated from theater to Landstuhl Regional Medical Center and then hospitals in the United States, often within 1 or 2 days of injury, and have also cared for more than 16,000 Iraqi nationals, coalition soldiers, and U.S. civilians. Fifty-one AMEDD personnel have made the ultimate sacrifice in Iraq and Afghanistan.

In theater, our Active and Reserve component medical units deliver a standard of care comparable to what soldiers and their families receive at our installations here in the United States. Technological advancements and improved aeromedical evacuation allow us to reduce our initial medical footprint in theater to 6 percent of the deployed force, down from 14 percent in Operations Desert Shield and Storm. Innovative medical health care providers have introduced techniques normally found in major medical centers to our deployed combat support hospitals. As an example, Lieutenant Colonel Trip Buckenmaier pioneered the use of advanced regional anesthesia and pain management while deployed with the 31st Combat Support Hospital with tremendous success. This technique allows complicated surgical procedures to be performed on a conscious soldier using spinal anesthesia and nerve blocks. It holds great promise to improve patient recovery and minimize post-operative complications common with general anesthesia, certainly as well as making those soldiers much more comfortable.

Back in the United States, our Army Medical Command supports the deployment of active component and mobilization and deployment of Reserve component units. Our medical treatment facilities conduct pre- and post-deployment medical screening to ensure soldiers are medically ready to deploy and to withstand the rigors of the modern battlefield. Nearly 23,000 mobilized Reserve component soldiers have developed an illness or an injury during their mobilization that required the Army to place them in a medical holdover status. Approximately two-thirds of these soldiers are returned to the Army in a deployable status in an average time of approximately 93 days from entering medical holdover.

All of our major medical centers are engaged in providing the best possible treatment and rehabilitation to combat casualties. You are familiar with the tremendous care provided at Walter Reed Army Medical Center, but just as noteworthy is the care provided to wounded soldiers at William Beaumont, Womack, Madigan, Darnall, Eisenhower, and Tripler Army Medical Center, as well as some of our relatively smaller facilities at Forts Carson, Stewart, Riley, and Drum, among others.

We recently expanded our medical amputee program to include a second amputee center at Brooke Army Medical Center in San Antonio, Texas. This center, collocated with the Institute for Surgical Research and the Army Burn Unit, will allow us to build upon the innovative care delivered at Walter Reed and to export advances in the treatment and rehabilitation of amputees and extremity injuries to not only military facilities but the rest of the medical community.

During this period of unprecedented operational tempo, we have maintained and improved the quality of care we deliver to soldiers, their families, and our retirees. Despite less than 100 percent backfill for deployed health care providers, we have maintained workload levels in our direct health care facilities. It is true that private sector workload is increasing, but not because we are doing less work at our facilities. As we have had to prioritize workload to support casualty care and deployment medical screening, family member and retiree care has, in some cases, shifted to the private sector. Additionally, families of mobilized Reserve component soldiers now have TRICARE available to them as their health insurance in many areas where military facilities do not exist or do not have the capacity to absorb the additional enrollees.

We have also completed a successful transition to the next generation of TRICARE contracts. The reduction in the number of regions, a national enrollment database, and increased flexibility on the part of market managers, our military treatment facility (MTF) commanders, will greatly enhance our ability to support ongoing mobilization and deployments, Army transformation, and upcoming base realignment and closure decisions.

In closing, I want to emphasize that the defense health program is a critical element of Army readiness. Healthy soldiers capable of withstanding the rigors of modern combat, who know their families have access to quality, affordable health care, and who are confident when they retire they will have access to that same quality health care, is an incredibly powerful weapons system. Every dollar invested in the defense health program does much more than just provide health insurance to the Department's beneficiaries. Each dollar is an investment in military readiness. In Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF), that investment has paid enormous dividends, and in my visits to Iraq, I can document that personally.

#### PREPARED STATEMENT

Again, I would like to thank you for your past and future support and, sirs, I look forward to answering your questions. Thank you. Senator STEVENS. Thank you very much, General.  
[The statement follows:]

#### PREPARED STATEMENT OF LIEUTENANT GENERAL KEVIN C. KILEY

Mr. Chairman and distinguished members of the Committee, thank you for your support of the Army Medical Department (AMEDD) which is providing world class care to Soldiers in Operations Enduring and Iraqi Freedom (OEF/OIF). Without your support we would not have had the resources to develop and refine multiple health care initiatives designed to enhance and improve medical care for Soldiers and their families before, during and after deployments. The AMEDD is at war and is spread around the world with an unprecedented operational tempo. I returned from my first visit to Iraq in mid-March and am extremely proud of the remarkable professionalism and compassionate performance of the entire AMEDD team in combat, preparing units for deployment and return, and maintaining the health of Soldiers, retirees, and their families at home.

In Iraq and Afghanistan, the United States and our allies continue to struggle with forces opposed to freedom. Soldiers know that from the 91W combat medic riding alongside them in convoy, to the aid station and combat support hospital, and throughout the evacuation chain to Landstuhl Regional Medical Center and on to home-station hospitals in the States, they will receive rapid, compassionate care from the world's best military medical force.

Our medical force in Iraq and Afghanistan has saved hundreds of lives—Soldiers, civilians and even those who fight against us—due to remarkable battlefield techniques, patient transportation and aeromedical evacuation, and state-of-the-art equipment and personnel. Battlefield health care for OEF and OIF has been enhanced by placing state-of-the-art surgical and medical care far forward on the battlefield providing life saving care within minutes after injury. This far forward care is integrated with a responsive and specialized aeromedical evacuation that quickly moves patients to facilities for follow-on care. Improved disease prevention and environmental surveillance has reduced the rate of non-combat disease to the lowest level of any U.S. conflict. In OIF, more than 91 percent of all casualties survive their wounds, the highest survivability rate of any US conflict.

We owe this improvement to several advancements. Improvements in tactics and protective equipment allow Soldiers to survive previously lethal injuries. The best trained combat medics and far forward resuscitative care, have also contributed to survivability. Our combat support hospitals in Iraq and Afghanistan support a full range of medical specialties, including many subspecialties like cardio-thoracic and neurosurgery. Technology now allows the Military Health System to deliver the same care available at Brooke Army Medical Center or Walter Reed in Mosul, Baghdad, or Kandahar. Today's Soldiers deserve better than essential life-saving care while deployed, they deserve the same superb quality care available to them and their families here in the United States. I am proud to say that we are doing just that today on the battlefields of Southwest Asia.

I would like to highlight several ongoing successes. Since January 2002, the U.S. Army Trauma Training Center, in association with the Ryder Trauma Center, University of Miami/Jackson Memorial Hospital, Miami, FL, has trained 32 Forward Surgical Teams and Combat Support Hospital surgical elements deploying in support of the Global War on Terrorism—more than 650 Active and Reserve Components (RC) healthcare providers. The training program has evolved to provide bonafide total team training to physicians, nurses, and medics, all focused on care of the acutely injured patient. This unique multidisciplinary pre-deployment clinical training has displaced deployment “on-the-job” clinical training as the appropriate training method to ensure safe, effective combat casualty resuscitative surgery and care—it is clinical teamwork that makes a tremendously positive difference in care of the wounded. The Center is recognized as the Department of Defense (DOD) Center of Excellence for Combat Casualty Care Team Training and received the 2005 DOD Patient Safety Award for Team Training.

Uncontrolled bleeding is a major cause of death in combat. About 50 percent of those who die on the battlefield bleed to death in minutes, before they can be evacuated to an aid station. Tourniquets, new blood-clotting bandages and injectable clot-stimulating medications are saving lives on the battlefield.

All Soldiers are taught to stop bleeding as a Common Task, including applying a pressure dressing and a tourniquet, if needed. Currently all Soldiers have the means of using a tourniquet. The new Soldier Improved First Aid Kit (IFAK) includes a next-generation tourniquet. This tourniquet allows a trained, isolated Soldier to stop bleeding in an arm or leg. Between March 2003 and March 2005, U.S. Army Medical Materiel Center-Southwest Asia issued 58,163 tourniquets (four types) to CENTCOM-deployed units. Since April 1, 2004, a total of 193,897 tourniquets have been issued to Army units deploying to theater. This includes 112,697 of two tourniquets proven 100 percent effective in control of severe bleeding (Combat Application Tourniquet or CAT® and SOFTT®). Beginning April 1, 2005 all new Soldiers will receive specific instruction on the CAT® during Basic Combat Training. By the end of June 2005, deployed Soldiers without an approved tourniquet will all have received the CAT® through the U.S. Army Medical Materiel Center-Southwest Asia, which placed an order for 172,000 CATs® and 56,000 SOFTTs® in mid-March 2005. The vendors expect to fill the complete order of 228,000 by the end of June or earlier. In fact, by the end of April more than 121,000 of these tourniquets have been shipped to Qatar for distribution throughout the CENTCOM theater of operations. Soldiers deploying for the next rotation of OIF/OEF will either be issued the CAT® as an individual item or the IFAK (which contains the CAT®) through the Rapid Fielding Initiative (RFI) sponsored by Program Executive Office: Soldier.

The U.S. Army Medical Research and Materiel Command continues to study a variety of agents which help control moderate to severe bleeding including a bandage made of chitosan (HemCon®), a biodegradable carbohydrate found in the shells of shrimp, lobsters and other animals. Chitosan bonds with blood cells, forming a clot. Chitosan was shown to be effective in stopping or reducing bleeding in more than 90 percent of combat cases, without known complications. The Food and Drug Administration (FDA) cleared this bandage for use in November 2002. Army combat medics are using this bandage in Iraq and Afghanistan today.

War is stressful for Soldiers and their families. The AMEDD has taken several steps to help minimize stresses associated with frequent, prolonged deployments. There are a wide array of mental health assets in Theater. These include Combat Stress Control teams and other mental health personnel assigned to combat units and hospitals. We have conducted three formal Mental Health Assessments, two in Iraq and one in Afghanistan. The reports of the most recent Assessments are pending DOD review and release.

Soldiers receive post-deployment briefings as they return home focusing on the challenges of reintegration with families and employers. Soldiers are cautioned that their families have changed and grown, and that they may have a different role. They are also warned about possible symptoms of deployment-related stress, such as irritability, bad dreams, and emotional detachment.

The post-deployment health assessment includes several mental health questions. The document is reviewed by a licensed healthcare provider. If Soldiers answer positively to the mental health questions, the provider may direct further evaluation and/or treatment.

The Assistant Secretary of Defense (Health Affairs) recently announced a DOD policy to require all Service Members to receive a second post-deployment mental health assessment 90 to 120 days after redeployment. Soldiers may be hesitant to admit or are unsure they are experiencing mental health issues when they first return. They are more likely to develop or recognize problems and report them three to six months later, after the “honeymoon” period has worn off. We are working diligently to identify and assist Active, Reserve, and National Guard Soldiers who experience post-deployment difficulties. There is more work to be done in this area and we continue to refine and improve our ability to identify and provide early and effective treatment to Soldiers who are experiencing post deployment mental health issues.

A Joint Theater Trauma Registry (JTTR) is now becoming a reality, modeled after the civilian standard established by Public Law 101-590, Trauma Care Systems Planning and Development Act. The JTTR pulls together the medical records of wounded (and deceased) Soldiers cared for in battlefield hospitals, and includes both their pre-hospital care and subsequent care in CONUS. When complete, the JTTR will present the most comprehensive picture of war wounds ever assembled. This medical database is invaluable for real-time situational awareness and medical research. By combining the JTTR with other personnel and operational databases, we anticipate its increased value will lead to improvements in Soldier Personal Protective Equipment (e.g. body armor), vehicle design, and small unit tactics.

We remain committed to providing high quality, expert medical care to all Soldiers who become ill or injured in the line of duty. There is only one standard of medical care for all Soldiers regardless of Active, Reserve, or National Guard status. That is why we created the Medical Holdover (MHO) program. In an effort to report MHO patient data up and down the chain, we created a Medical Holdover module in our Medical Operational Data System (MODS), a proven system with robust capabilities for patient tracking and Soldier health reporting. Once we were convinced that the data was timely and accurate, we began to integrate data from other systems, eliminating so-called “stovepipes”. We started with Medical Evaluation Board (MEB) tracking data, and now have three more patient tracking and administrative systems feeding into MODS. Those measures were so successful that every Army major command involved in MHO operations now uses MODS as the sole source for information on MHO Soldiers. To further enhance MODS’ capabilities, we expect to have pay and finance, and personnel data integrated over the next 90 days.

Management and expeditious disposition of MHO Soldiers must balance a great number of factors. First, healing takes time. If all combat operations ceased today, we would still have MHO patients to care for one and one half years from now. Another factor is the simple fact that no one knows Soldier health care better than the AMEDD. We know best how to treat Soldiers, when Soldiers are fit to return to duty, and when they have to undergo a Medical Evaluation Board. For the RC Soldier, however, an Army MTF may be hundreds of miles away from home and typically, what a Soldier wants most when he or she returns from a deployment is to go home.

In an effort to allow RC MHO Soldiers to receive care close to their homes, the Army developed the Community Based Health Care Initiative (CBHCI). CBHCI provides top quality health care for ill and injured RC Soldiers. It increases the Army’s medical treatment, command and control, and billeting capacities. Thus, the CBHCI allows the Army to reunite Soldiers with their families. The principal instruments of the CBHCI are the Community Based Health Care Organizations (CBHCOs). These are units staffed primarily by mobilized National Guard Soldiers. Their mission is to provide case management for, and ensure command and control of healing

RC Soldiers. The CBHCOs acquire health care from Army, Navy, and Air Force facilities; the VA; and the TRICARE network. They represent the Army's commitment to take care of our Soldiers and their families with speed and compassion.

Accession of Health Care Professionals into our Active force is becoming a more significant challenge. We are starting to see a downturn in our Health Professions Scholarship applicants for both the Medical and Dental Corps. Since student scholarship programs are the bedrock of Army Medical Department accessions, I have directed my staff to closely monitor this trend. We rely on these scholarship programs because direct recruitment of fully qualified physicians, dentists and nurses is difficult due to the extremely competitive civilian market for these skill sets.

Likewise I am concerned about the retention of health care professionals. Their successful retention is a combination of reasonable compensation, adequate administrative and support staffs, appropriate physical facilities, equity of deployments and family quality of life. Changes in Special Pay ceilings have allowed us to increase the rates we now offer physicians that sign a four year contract. We also have increased the dollar amount that we pay our Certified Registered Nurse Anesthetists to improve their retention rates. We will continue to evaluate and adjust rates to improve our retention efforts. At the same time, we have developed and implemented programs to affect the non-monetary issues positively effecting retention. We have implemented policies that ensure equity of deployments by maximizing our deployment pool, providing adequate notification of impending deployment, and providing a predictable period of family separation. All of these assist us in the retention of our active component medical force.

The Commander, U.S. Army Recruiting Command and I are working diligently toward the establishment and implementation of new and enhanced initiatives to reverse these emerging trends. Some of these include increasing the recruitment of Physician Assistants; the development of a program to allow serving officers to obtain a Bachelor of Science in Nursing and the direct involvement of my senior medical and dental consultants in the recruitment effort to continue to tell the story of the practice of Army Medicine. Of equal concern to me are the recruitment challenges facing the Army Reserve and National Guard. I fully support all of the actions being taken by the Chief of the Army Reserve (CAR), LTG Helmly, and the Director, National Guard Bureau, LTG Schultz) as they deal with the unique issues surrounding Army Reserve recruitment efforts in the current operational environment.

As with Recruitment, my staff and I continue to work hand in hand with the CAR and the Director of the Army National Guard to determine programs necessary for adequate retention. RC Soldiers have continually answered the call to service and it is critical that we develop the appropriate programs to ensure that their expertise and experience are not lost. Considering that over 50 percent of the total Army medical force is in the Reserve Components, issues surrounding the financial and family impact of extended and recurring deployments must be addressed and resolved if we are to retain a viable medical force for future operations.

Several related Army and DOD initiatives are creating temporary and permanent population changes on our Army installations. They include: support of GWOT pre- and post-deployment health; Modularity—now known as Army Modular Force (AMF); Training Base Expansion; the Integrated Global Basing and Presence Strategy and Base Realignment and Closing (BRAC) 2005. These major population shifts create a tremendous challenge for Army Medicine as we try to adjust to meet local and regional medical markets.

As we rebalance the military Health System in the affected markets, our continued focus is to provide quality health care that is responsive to commanders and readily accessible to soldiers and families. We are working very closely with commanders, installations, arriving units, family support groups and the local communities surrounding our installations to ensure that access and quality of healthcare remain high. We are leveraging all available AMEDD, DOD and VA health care capacity in each locale. We are working closely with our TRICARE Regional Offices and Managed Care Support Contractors on market-by-market business case analyses to strike the right balance between Direct Care and Purchased Care capacity.

It should be noted that these are solutions pending release of BRAC 2005, after which the AMEDD will develop permanent plans for rebalancing health service support across installations and regions. During fiscal years 2005 and 2006, at many installations, even our temporary expansions may lag the arrival of Soldiers and family members. In the interim, we are extending clinic hours, hiring additional staff, and temporarily increasing referrals to TRICARE network providers to insure continuity of care.

The AMEDD is actively engaged in the DOD Patient Safety Program, which is a system-wide effort to reduce medical errors combined with non-attributional re-



porting and multi-disciplinary analysis of events. The goal is the trending of incidents, identification of lessons learned and the implementation of best practices that can be propagated system-wide by the Patient Safety Center. The AMEDD is making significant strides in creating a culture of patient safety where staff is comfortable reporting patient safety events in an environment free of intimidation. We are improving error reporting by increasing leadership awareness at all levels through multiple approaches including collaborative training efforts with the DOD Patient Safety Program.

Communication is the number one causal factor in almost all patient safety events. The AMEDD Patient Safety Program has made major advancements in team training in targeted high-risk environments such as emergency departments, labor and delivery units, and intensive care units. DOD's Pharmacy Data Transaction Service (PDTS), implemented in 2001, established a centralized, automated drug data repository integrating all DOD patients' medication data from medical treatment facility pharmacies, the 54,000 TRICARE retail network pharmacies and the TRICARE Mail Order Pharmacy. As a direct result of this system's ability to screen all patients' medications against the complete medication profile, PDTS has prevented over 60,000 clinically significant drug-drug interactions, which would have otherwise resulted in patient harm. In 2004, a multi-year strategic Army Pharmacy automation initiative was implemented and focused on preventing medication errors and improving medication-use safety through the integration of automation technology at all Army pharmacies worldwide. This initiative will reduce and prevent medication errors that often lead to increased utilization of more costly healthcare.

The AMEDD continues to work with DOD to improved medical care for RC Soldiers and their family members. RC Soldiers and their families now receive TRICARE coverage not only while on active duty but also before and after. This can lessen the worries of deployed personnel about their family members' health and also serve as an incentive for experienced Soldiers to remain in the Reserve after their deployment. When a RC Soldier is called to active duty for more than 30 days in support of a contingency operation, they and their family members have full TRICARE coverage up to 90 days before the start of active duty. The coverage is the same as that provided for family members of any active duty Soldier, including options for TRICARE Prime and TRICARE Prime Remote and eligibility for family dental coverage. To ensure continuity of care, these Reservists and family members continue to receive TRICARE coverage for 180 days after leaving active duty under the Transitional Assistance Management Program (TAMP). After TAMP, Soldiers may choose to continue TRICARE coverage for their families for up to 18 months under the Continued Health Care Benefits Program (CHCBP) or to enroll in the new TRICARE Reserve Select (TRS) program, scheduled to be implemented on April 26, 2005. Under TRS, Soldiers agreeing to serve in the Selected Reserve may receive one year of purchased TRICARE Standard coverage for their families for each consecutive 90 days spent on active duty in support of a contingency operation.

From June to November 2004, TRICARE transitioned from eleven contract regions and seven contracts to three CONUS regions. The new generation of contracts is performance-based and designed to maximize the efficient use of military treatment facilities while flexibly using civilian healthcare resources when appropriate. Portability of benefits between regions is improved and several functions, such as pharmacy and the administration of TRICARE for Life have been consolidated into nation-wide contracts. As part of the transition to the new contracts, measures are being taken to improve coordination between military facilities and civilian network providers and to make access to care more patient-centered. TRICARE Online (TOL) offers patients better information about their choice of appointments and allows them to make appointments after normal duty hours, while reducing the rate of "no-shows." Over 50,000 appointments were made through TOL in 2004, and the program is being expanded to include more facilities. A commercial-off-the-shelf web-based electronic fax service is providing efficient transmission of referrals from military treatment facilities to network providers. After a successful pilot at 30 facilities, a contract has been awarded to provide this service Army-wide. The Enterprise-Wide Referral and Authorization process is a high-priority effort to use net-centric technology and improved business processes to streamline and standardize the referral and authorization of care to network providers. The goals of the three-phase plan are to increase patient satisfaction, make the referral process more efficient, and to optimize allocation of military and civilian healthcare resources. The current short-term phase is standardizing several critical processes while emphasizing improved handling of urgent referrals.

The Army continues to improve the quality of healthcare for Soldiers and families stationed overseas. The Vicenza Birthing Center initiative was driven by cultural

differences between child birth procedures in local Italian hospitals and U.S. expectations for obstetrical and gynecological care. These differences have had an adverse impact on family member morale and Soldier readiness for a number of years. In multiple venues, U.S. Soldiers and family members of the Vicenza community have, with one voice, asked for a safe, reliable and accessible U.S. standard of healthcare, particularly in regard to obstetrical services. With the deployment of the 173rd Airborne Brigade, this concern is even more acute and being championed by the U.S. Army Europe Commander. In response to this need, the AMEDD developed an interim solution by establishing a temporary birthing center at the Vicenza Army Health Clinic. This birthing center will accommodate the needs of the vast majority of normal pregnancies and births. We will continue to depend on our Italian host nation hospitals for emergency obstetrical care. In these cases, care is comparable to U.S. standards. The birthing center is currently under construction and will be operational by 8 June 2005.

On December 13, 2002, the Military Vaccine Agency (an executive agency of the Army Surgeon General) began implementation of DOD's Smallpox Vaccination Program in support of the national smallpox preparedness plan announced by the President. The Smallpox Vaccination Program is using the existing FDA-licensed smallpox vaccine consistent with its label. The program is tailored to the unique requirement of the Armed Forces. Like civilian communities, DOD ensures preparedness by immunizing personnel based on their occupational responsibilities. These include smallpox response teams and hospital and clinic workers, as well as designated forces having critical mission capabilities. Like other vaccinations, this will be mandated for designated personnel unless they are medically exempt. The last year includes both major advances and major setbacks in the Military Immunization Program. Since December 2002, the DOD has vaccinated more than 770,000 personnel (Army: more than 410,000 personnel [military + civilian]) against smallpox, representing the largest cohort of smallpox-protected people on Earth. These vaccinations have been conducted with great care to exempt people with personal medical conditions that bar smallpox vaccination. Review by military and civilian experts shows that adverse events after smallpox vaccination have been at or below historical rates expected among smallpox vaccines. In early 2003, DOD and Army clinicians and scientists identified an elevated risk of heart inflammation (myo-pericarditis) in male smallpox vaccines in their 20s. Our follow-up of these cases shows them to have a rapid and high degree of recovery. With clinical teams focused at Brooke and Walter Reed Army Medical Centers, we continue to follow these patients and provide them state-of-the-art care, to learn more about the condition.

The Department lost an important countermeasure against anthrax weapons in October 2004, when a U.S. District Court judge enjoined operation of the Anthrax Vaccination Immunization Program (AVIP) for inoculation using Anthrax Vaccine Adsorbed (AVA) to prevent inhalation anthrax. Anthrax spores continue to be the #1 threat among bioweapons. Until the injunction, the DOD had administered 5.2 million doses of AVA to 1.3 million people (Army: more than 1.9 million doses to over 500,000 people), as well as assisting with 20 human safety studies described in 34 publications in medical journals. In April 2005, the Court agreed to allow the DOD to restart the AVIP under a U.S. Food and Drug Administration Emergency Use Authorization and the Army is preparing to administer AVA to individuals between 18 and 65 years of age who are deemed by DOD to be at heightened risk of exposure due to attack with anthrax. The terms of the Emergency Use Authorization allow Soldiers to refuse receiving the AVA without penalty after reviewing educational information on AVA. I expect we will restart the program under the Emergency Use Authorization by mid-May 2005 for Soldiers serving in, or deploying to, Southwest Asia and Korea.

Army scientists continue their work in research and development of new vaccines, including adenovirus vaccines, malaria vaccine, and plague vaccine. These vaccines are needed to protect against microbes that threaten Soldiers in basic training, in tropical locations, or as bioweapons, respectively. Adenovirus vaccine research involves tablets to protect against a militarily relevant respiratory germ. Malaria is one of the leading infectious causes of death around the world. The Walter Reed Army Institute of Research's malaria research program is a world leader in this field. Plague vaccine research is centered at the US Army Medical Research Institute of Infectious Diseases, another world-class asset of the U.S. Army.

During all this unprecedented activity and keen competition for limited resources, the courage, competence and compassion of the AMEDD's people amaze me. Despite the long hours, separation from family, danger, and hardship required to fight the Global War on Terrorism, they remain firmly committed and motivated to provide the best possible support for American Soldiers, their families, and all others who are entrusted to their care. Nothing saddens us more than to lose a Soldier. With

your continued support, the AMEDD will continue to do everything possible to prevent these terrible losses whether from battle wounds or non-battle illnesses and injuries. We will always remember our core mission: to preserve Soldiers' lives and health anywhere, anytime, in war and in peace. We will never forget the Soldier.

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BIOGRAPHICAL SKETCH OF LIEUTENANT GENERAL KEVIN C. KILEY

Lieutenant General Kevin C. Kiley, M.D., is a 1972 graduate of the University of Scranton, with a bachelor's degree in biology. He received his medical degree from Georgetown University School of Medicine in 1976. He served a surgical internship and then an obstetrics and gynecology residency at William Beaumont Army Medical Center, El Paso, Texas, graduating in 1980.

His first tour was with the 121st Evacuation Hospital in Seoul, South Korea, where he was the chief of OB/GYN services from 1980 to 1982. He returned to the residency training program at William Beaumont Army Medical Center and served as Chief, Family Planning and Counseling Service. He then served as Assistant, Chief of the Department of OB/GYN until February 1985.

He was assigned as the Division Surgeon of the 10th Mountain Division, a new light infantry division in Fort Drum, New York. In July 1985, he assumed command of the newly activated 10th Medical Battalion, 10th Mountain Division. He served concurrently in both assignments until May 1988. He returned to William Beaumont Army Medical Center, where he first served as the Assistant Chief, then Chairman of the Department of OB/GYN.

In November 1990, he assumed command of the 15th Evacuation Hospital at Fort Polk, Louisiana, and in January 1991, he deployed the hospital to Saudi Arabia in support of Operations Desert Shield and Desert Storm. Upon his return, he was assigned as the Deputy Commander for Clinical Services at Womack Army Medical Center, Fort Bragg, North Carolina, from November 1991 to November 1993.

He is a 1994 graduate of the U.S. Army War College, Carlisle Barracks, Pennsylvania. He assumed command of the Landstuhl (Germany) Regional Medical Center and what is now the U.S. Army Europe Regional Medical Command at Landstuhl, Germany, June 30, 1994. He also served concurrently as the Command Surgeon, U.S. Army Europe and 7th Army from September 1995 to May 1998.

In April 1998 he assumed the duties as; Assistant Surgeon General for Force Projection; Deputy Chief of Staff for Operations, Health Policy and Services, U.S. Army Medical Command; and Chief, Medical Corps. On June 5, 2000 he assumed duties as Commander of the U.S. Army Medical Department Center and School and Fort Sam Houston and continued as Chief of the Medical Corps. He served as the commander of Walter Reed Army Medical Center and North Atlantic Regional Medical Command and Lead Agent for Region I from June 2002 to June 2004.

Lieutenant General Kiley assumed the duties of Acting Commander, U.S. Army Medical Command on 8 July 2004. After receiving Senate confirmation of his nomination, he was sworn in as the 41st Army Surgeon General and assumed the duties as Commanding General, U.S. Army Medical Command on October 4, 2004. He was promoted to the grade of Lieutenant General on October 12, 2004.

He is a board-certified OB/GYN and a fellow of the American College of Obstetricians and Gynecologists.

Among his awards and decorations are the Distinguished Service Medal, Defense Superior Service Medal, Legion of Merit (three Oak Leaf Clusters), Bronze Star Medal, Defense Meritorious Service Medal, Meritorious Service Medal (two Oak Leaf Clusters), Army Commendation Medal, The Army Superior Unit Award (one Oak Leaf Cluster), the "A" professional designator, the Order of Military Medical Merit, and the Expert Field Medical Badge.

Senator STEVENS. Senator Mikulski, I was not looking in your direction. Did you have an opening statement?

Senator MIKULSKI. I will do that when I get to my questions.

Senator STEVENS. Thank you. I apologize for not recognizing you. Admiral Arthur.

**STATEMENT OF VICE ADMIRAL DONALD C. ARTHUR, MEDICAL CORPS,  
SURGEON GENERAL, UNITED STATES NAVY**

Admiral ARTHUR. Yes. Good morning, Chairman Stevens, Senator Inouye, Senator Mikulski. Thank you very much for having us here this morning.

I am not going to read my statement. You have read that and I appreciate that.

Senator STEVENS. All of your statements will be printed in the record as if read.

Admiral ARTHUR. Yes, sir. I would like to make some general comments and to reiterate some of what is in here, but not all of it.

First, I would like to highlight that we have a series of priorities in Navy medicine, and the first will always be our readiness. We break readiness down into a number of different factors.

The first and foremost is to make sure that our sailors and marines and whatever soldiers, airmen, and coast guardsmen we take care of are ready for their duties and are a healthy population, as well as their families so that they have the confidence that they can go and deploy and we will take care of their families.

Our second readiness priority is to be ready ourselves to deploy in whatever manner we are asked to. I was in Iraq in December and January. I noticed we had so many significant improvements in how we do business in the combat arena over Desert Storm where I served with the marines. We had, for example, digitized radiography. We had computers all over. We had a lot of advanced systems. The thing that was the most critical to the care of wounded soldiers and marines over there was the training that the corpsmen and medics got. The corpsmen and medics were there and delivered the care right at the time of wounding. The training of the surgical teams, the rapid medevac, and the incredibly great service at Landstuhl on the way back to the United States. I think you can be very, very proud of the care that your wounded soldiers, marines, sailors, airmen, coast guardsmen are getting over there. As Senator Inouye said, it is the best in history with the lowest disease non-battle injury rate and the greatest survivability in the history of combat.

A third priority for our readiness is homeland security, and this is an area of great concern for me because I think that in some sectors of our Government, we have not yet fully prepared for an attack on our homeland. We have a program with the Bethesda Military Medical Center compound, as well as the National Institutes of Health (NIH) compound right next door, and the Suburban Hospital Trauma Center, to form a mega-center which could respond to casualties in the National Capital area, and you should be seeing more about that very soon.

Our second priority is to continue to deliver the quality health care for which we have become well known. We have the advantage of being a health care system as opposed to much of the rest of America where I believe we have a disease care industry. We get paid not by how many procedures and how many immunizations we give, but we get paid by our line and the number of soldiers, sailors, airmen, and marines we have on duty, and that is our metric for success.

The Chief of Naval Operations (CNO) interviewed me 1 year ago for this job that I am currently honored to hold, and he asked me could our casualties be seen and treated at civilian hospitals, and I said, well, sure they could. They can be very well treated at Johns Hopkins or at Mayo Clinic. But those hospitals would not under-

stand two things that are critical to our treatment of our casualties.

Number one, that the soldiers, sailors, airmen, and marines' injuries are not just to that person, they are to his or her entire family. These are family injuries.

The second thing that civilian hospitals will not understand about our casualties is that even lying at Bethesda or Walter Reed, these marines and soldiers are still in combat. They still remember the stresses that they incurred in combat and we care for them in a way that civilian hospitals could not do just because we have the background and we have shared that combat experience with them.

We have another advantage in our delivery of quality health services in our collaboration with the Veterans Administration (VA). Yesterday Secretary Nicholson opened up the joint DOD-VA clinic at Pensacola, Florida. We have joint clinics which we are building in Great Lakes and Charleston, South Carolina that I think will be of great benefit to both veteran populations.

Our third priority is to help shape the force of the future, not to meet the needs of yesterday but meet tomorrow's needs, which will include not just the traditional combat casualty care, but also homeland security, stability operations, and the global war on terror requirements. This may require that we shape our forces differently, that we have some different capabilities than we thought we would need if only our missions were combat casualty care, and I refer to the recent mission of *Mercy* in Banda Aceh taking care of tsunami and disaster relief victims over there. They needed surgeons. They needed the combat casualty care type of specialties, but they also needed pediatricians, OB-GYN specialists, preventive medicine specialists, and all of those specialties that are not necessarily planned for combat casualty care.

We are focusing on Active and Reserve integration; that is, that we more fully incorporate our Reserve component in our active duty warfighting plans. We now have six Active duty fleet hospitals, for example, and two Reserve fleet hospitals. We would like to have just eight fleet hospitals that combine Active and Reserve components to be more fully integrated.

One other integration effort that I think would be of great benefit is to better integrate the three service medical departments in how we train, equip, recruit, supply, and how we deploy so that we can be as fully interoperable in the combat arena as we can be.

And last, I would like to thank you very much for your support and the encouragement that you have given us in finding the best casualty care management for the veterans that are now over there in OIF and OEF.

I apologize. I will have to leave before my colleague, Rear Admiral Lescavage, testifies. I have to fly out of town, but we are very proud of the accomplishments of our Navy Nurse Corps as a member of our team.

#### PREPARED STATEMENT

Senator Inouye, you mentioned that you were proud of the accomplishments of our Medical Corps. I would say one of the great benefits of our Medical Department is that we are not just a medical corps or a nurse corps or a medical service corps or dental

corps or a hospital corps. We are a combination. We are the team. It is that teamwork, that synergistic effort of all of our corps together, that really makes us strong. You do not find that in civilian institutions, and that is what I think makes our military medical departments great.

Thank you very much.

Senator STEVENS. Thank you, Admiral.

[The statement follows:]

PREPARED STATEMENT OF VICE ADMIRAL DONALD C. ARTHUR

Chairman Stevens, Ranking Member Inouye, distinguished members of the subcommittee, I welcome the opportunity to share with you how Navy Medicine is taking care of our nation's Sailors, Marines, and their families.

As our nation continues to fight the Global War on Terror, Navy Medicine will continue to meet the health care needs of our beneficiaries, active duty, military retirees, and eligible family members. These efforts reflect our unrelenting commitment to our primary mission—Force Health Protection. The components of Force Health Protection are: (1) preparing a healthy and fit force; (2) deploying medical personnel to protect our warriors in the battlefield; (3) restoring health on the battlefield; (4) providing care to our retired warriors through TRICARE for Life; and (5) providing world-class health care for all beneficiaries.

*Priorities*

To meet the needs of those entrusted to our care, Navy Medicine established five priorities to meet our unique dual mission. That dual mission is first, to support and protect our operational forces while working in concert with the Chief of Naval Operations' and Commandant's vision for the Navy-Marine Corps team, and second, to provide health care to their family members and retirees.

*Readiness*

Readiness is our number one priority. To be ready, Navy Medicine must be responsive, agile and aligned with operational forces. We need to have the right people with the right capabilities ready to deploy in support of the Navy-Marine Corps team.

In current operations, Navy Medicine has made significant advancements in the health care provided by First Responders and improved surgical access during the critical "golden hour." In addition to improving health care after traumatic battlefield injuries, Navy Medicine is also curbing infectious disease outbreaks, decreasing occupational injuries, and providing preventive medicine and mental health care services.

An outstanding example of Navy Medicine's more capable, flexible and responsive force is the creation of the Expeditionary Medical Facility (EMF). These facilities, with similar capabilities as Fleet Hospitals, are lighter and more mobile and can be set up within 48 hours. EMFs may be used independently or in combination with the theater's joint health system for evacuation, medical logistics, medical reporting, and other functions, ensuring better interoperability with the Army and the Air Force. The flexibility of EMFs continues to evolve to meet operational requirements and provide robust medical care for major conflicts, low-intensity combat, operations other than war, and disaster/humanitarian relief operations.

We are also expanding the role of Navy Medicine on the battlefield with the 1,000 Sailors either deployed overseas or preparing to deploy with Maritime Force Protection Command units. These Sailors receive a half-day in training from doctors and hospital corpsmen in how to use special medical kits. These "Point of Injury" kits contain items like an easy to use tourniquet, a specialized compression bandage, QuikClot (a product designed to stop bleeding), antibiotic and pain medications. These kits are designed for self-care or buddy care in the minutes before a corpsman arrives on the scene.

The Global War on Terror has challenged us to broaden our view of medical readiness. Our Military Treatment Facilities (MTF) are prepared to respond to any contingency, to provide expert health care to casualties returning from theater, and be ready to support the Nation's needs in collaboration with the National Disaster Medical System. Additionally, Navy Medicine launched three major initiatives to meet the needs of disaster preparedness focused on staff, supplies and systems.

Using the Strategic National Stockpile as a model, we are planning for additional equipment to enhance the capabilities of local MTFs. We developed a successful multi-service online medical and emergency management educational tool, as well

as an Emergency Management Program Readiness Course that has become the DOD Medical training standard. The Disaster Preparedness, Vulnerability Analysis Program (DVATEX) was developed to evaluate military, federal, and local community responsiveness. This program goes beyond assessing MTF threat vulnerability and capability assessment; it also provides training in medical and operational management.

Collaboration with other organizations, including other federal and civilian agencies, is essential for effective and efficient disaster response. A local example of this type of collaboration is taking place at the National Naval Medical Center in Bethesda, Maryland. Because of its proximity to the National Capital Region, the National Naval Medical Center established a disaster preparedness and response coalition with the National Institutes of Health and Suburban Hospital Healthcare System in Bethesda. Recently, they conducted a joint disaster drill involving Montgomery County and municipal emergency response organizations and other members of the local area hospital network.

Delivering a more fit and healthy force, mitigating the risk of injury or illness, and providing more effective resuscitation of battlefield casualties will enhance Navy Medicine's readiness and ability to prosecute the Global War on Terror. Medical research and development is a critical enabler of this effort. Our research investments allow us to transform into a defensive weapon system that will promote health and fitness, protect people from injury and disease, and effectively reduce, manage and rehabilitate casualties. In addition, these research investments and capabilities help Navy Medicine respond to the current and future needs of the Fleet and Fleet Marine Force.

Navy scientists conduct basic, clinical, and field research directly related to military requirements and operational needs. Current studies focus on the efficacy trials for blood substitutes to treat combat casualties; new treatment modalities for musculoskeletal injuries and acute acoustic barotrauma; and solutions for the emerging threats of combat stress, among others. Our medical research laboratory facilities equal those at modern academic and industrial institutions. Beyond this capacity, a number of these laboratories have unique test equipment and specialized software for pursuing research on current and projected biomedical problems. Research is further supported in other Navy laboratories as well as in partnership with the Army and Air Force, and other Federal agencies.

Research in non-government laboratories is promoted through an active collaborative research and technology transfer program that develops cooperative research and development agreements with universities and private industry to ensure that research products from our laboratories benefit the entire country. Navy-supported medical research efforts have influenced the civilian practice of medicine, assisted the Ministries of Health in developing nations, and provided technology for other Federal initiatives.

Our overseas research facilities are national assets serving the strategic interests of the regional Combatant Commander and the local Ambassador. They bring unique surveillance capabilities and advanced laboratory capabilities to areas where infectious diseases are a significant threat to our personnel. These capabilities were recently leveraged in the tsunami relief effort in Banda Aceh. In addition to supporting the mission of Force Health Protection, the overseas labs are strategic partners in promoting Theater Security Cooperation. Lastly, they are developing a new alliance with the Centers for Disease and Control to further that agency's efforts in mitigating the risk that emerging infectious diseases pose to the health of our citizens and our economy.

#### *Quality, Economical Health Services*

Navy Medicine's second priority is providing quality, cost-effective health services. While focusing on quality health care, Navy Medicine has recognized the need to provide the best possible health care within our resource constraints. Through careful business planning, Navy Medicine aligned MTF operations to focus on the preservation of health, and the prevention of disease and injury. Recently, the Naval Health Clinic in Pearl Harbor instituted a new Individual Health Readiness (IHR) program. The goal of this program is to ensure each Pearl Harbor Sailor is healthy and mission-ready. It was established to build and improve total Navy Regional Hawaii health readiness in response to a growing number of shore and sea Sailors deploying. The IHR program ensures each Sailor has an up-to-date health assessment to determine deployment limiting conditions, dental readiness, immunization status, lab studies and individual medical equipment needs to ensure the command's level of health readiness—both dental and medical—is 95 percent or better.

An enterprise focused on quality must understand what products or services have value to its customers and the metrics used to measure the delivery of quality

health care. In meeting quality standards, Navy Medicine must take into consideration regulatory compliance requirements, the working environment, as well as evaluating the patients' experience.

The many facets of quality control provide us with constant opportunity to evaluate health care delivery. For example, creating a fit force translates into improved Medical Readiness for our warriors, while ensuring a highly trained and ready Medical team to provide compassionate quality care for the wounded, injured, or sick. In addition, Navy Medicine has designated a Combat Operational Stress Consultant to serve as the Navy and Marine Corps subject matter expert on combat and operational stress. This consultant will allow Navy Medicine increased oversight and further development of prevention and mental health care efforts for our military personnel.

We established a family-centered care program to enhance patient safety, health, cost efficiency and patient and staff satisfaction. We are currently working with the TRICARE Management Activity and the other services to ensure that the program is widely available. In addition, we have coordinated our efforts with other related entities within Navy Medicine, such as the Perinatal Advisory Board, to optimize our efforts.

Increased cooperation and collaboration with our federal health care partners is essential in providing quality care. As an extension of our ability to care for our patients, Navy Medicine's partnership with Veterans Affairs medical facilities continues to grow and develop into a mutually beneficial partnership. Although not directly related to the Military Health System, it is imperative that Navy Medicine strengthens its relationship with the Department of Veterans Affairs. This begins with the seamless transfer of care for injured service members to the VA and includes sharing resources to optimize our efforts and avoid duplicating services.

The care for Sailors and Marines who transfer to and receive care from a VA facility while convalescing is coordinated through the VA Seamless Transition Coordinator. This full time VA staff member is co-located at National Naval Medical Center and interacts with OEF/OIF Points of Contact at each VA Medical Center. The Seamless Transition Program was created by former Veterans' Affairs Secretary Principi specifically to address the logistical and administrative barriers for active duty service members transitioning from military to VA-centered care.

Although recently-wounded Sailors and Marines differ from the VA's traditional rehabilitation patient in age and extent or complexity of injury, Navy Medicine and the VA must adapt to meet their needs. In the past, patients were admitted to the VA's rehabilitation service with multiple clinical services addressing individual requirements. To enhance continuity, clinical outcomes, and improved family support, National Naval Medical Center physicians now remain as the Case Managers throughout the transition process. Currently, weekly teleconferences to review Bethesda transfer patients are conducted with primary transfer sites, such as the VA Medical Center in Tampa, Florida. In addition to site visits and teleconferences, Navy Medicine will continue to coordinate with other facilities, forge relationships, share best practices, and enhance delivery to all of our patients. This level of interaction and cooperation will need to continue at every level to ensure the care of our wounded warriors is never compromised.

With regard to the sharing of resources, the level of sharing between DOD and VA health care activities has improved. Navy Medicine supports Commanding Officers who pursue sharing and collaboration with VA facilities in their communities. In fact, Navy Medicine currently manages 28 medical agreements and 45 dental agreements through the Military Medical Support Office (an office that coordinates health care for active duty members who are stationed in remote areas without local Military Medical Treatment Facilities).

Some of these agreements represent efforts to consolidate support functions for the medical facilities. However, other more comprehensive examples of resource-sharing efforts between the agencies include: the Navy Blood Program at Naval Hospital Great Lakes which uses the North Chicago Veterans Affairs Medical Center spaces to manufacture blood products in exchange for blood products, precluding the need for Navy to build a new blood center at Naval Hospital Great Lakes; and the DOD/VA Federal Pharmacy Executive Steering Committee (FPESC) which was charted to oversee joint agency contracts involving high dollar and high volume pharmaceuticals designed to increase uniformity and improve the clinical and economic outcomes of drug therapy in both systems.

Navy Medicine is also partnering or planning to partner with the VA in five hospital/ambulatory care center construction projects. Naval Hospital Pensacola is working with the VA on a joint-venture outpatient medical care facility; Naval Hospital Charleston has a future VA construction start for a Consolidated Medical Clinic (CMC) aboard Naval Weapons Station Charleston, SC; Naval Hospital Great



Lakes is considering Joint Ambulatory Care Clinic adjacent to the North Chicago Veterans Affairs Medical Center's main facility; Naval Hospital Guam is considering a project where the VA would accept an adjacent site to construct a small free-standing community-based outpatient clinic from Navy; and Naval Hospital Beaufort is also considering a future project with the VA.

Guided by Navy Medicine leadership, last year each MTF developed a comprehensive business plan focused on meeting operational readiness requirements while improving population health. These plans emphasize such areas as improved contingency planning, pharmacy management, clinical productivity, implementation of evidence-based medicine, advanced access, and seamless referral management for beneficiaries. Navy Medicine is currently in the process of creating a system that will allow MTF commanders to monitor their performance in these areas so they can better balance measures of operational readiness, customer satisfaction, internal efficiency and human capital development.

Beginning in the early 1990's, Navy Dentistry began consolidating its command suites from 34 commands to 15. The cost savings included the elimination of redundant officer, enlisted and civilian support personnel formerly involved in the administration of the separate command infrastructure. In 2004, Navy Dentistry again consolidated 15 commands into three. The primary objective of the most recent dental consolidation was to integrate Dental Commands with the larger MTF command suite in the shared geographical area to eliminate more than 90 duplicate administrative functions—all of this was accomplished without adverse impact on the dental health care delivered and in a manner that is transparent to the customers. The remaining three commands are the Dental Battalions supporting the Fleet Marine Force.

As Navy Medicine strives to obtain long-term value through disease prevention and increased quality of life, each MTF business plan includes a preventive health initiative with the goal of exceeding national measures of breast health promotion, long-term asthma management and control of diabetes. Our leadership developed guidelines for these Navy-wide efforts and created tools to monitor performance in these areas. Next year, we plan to expand our efforts to address obesity, lack of exercise and tobacco use; with the goal of reducing the risk of long-term disabling illnesses.

Finally, another critical component of providing quality care requires that Navy Medicine be an active participant in the implementation of the new TRICARE contracts. Although the TRICARE benefit structure remains the same, there have been changes in program administration that are intended to make health care delivery more customer-focused and support better coordination between MTFs and civilian provider networks. Organizational changes implemented to support the new business environment include the disestablishment of Lead Agents and the establishment of three TRICARE Regional Offices (TRO) aligned with the regional contracts in the United States—North, South, West. Each of the Services was responsible for providing a Flag/General Officer or Senior Executive Service civilian dedicated for a TRO Director position: Army-North, Air Force-South, Navy-West. The Navy has named RADM Nancy Lescavage as the second TRO Director. RADM Lescavage is relieving retiring RADM James Johnson in June 2005.

#### *Shaping Tomorrow's Force*

The Navy and Marine Corps are reshaping the fighting force by defining future requirements, including the medical requirements of the warfighters. As a result, Navy Medicine's third priority—Shaping Tomorrow's Force—focuses on recruiting, training, and retaining the most capable uniformed members to match manpower to force structure to combat capability. This is an important piece of the Department of the Navy's more comprehensive Human Capital Strategy.

Navy Medicine is quickly transforming in concert with the Navy and Marine Corps to provide medical support to the fighting forces as they adapt to the changing nature of global warfare, including emerging missions such as: humanitarian operations, regional maritime security, providing care for detainees, and homeland defense—all of which place additional requirements on shaping the force of the future. Our uniformed personnel will participate in increasingly complex joint environments and move efficiently between forward deployed settings and fixed facilities ashore. We must be proficient and productive at the right cost.

A recent example of the Navy Medicine's flexibility in engaging in a humanitarian mission would be the rapid response to the earthquake and tsunamis that struck the Indian Ocean. Within days, U.S.S. *Abraham Lincoln* and U.S.S. *Bonhomme Richard* were en route to assist those in need. U.S. helicopters from *Lincoln* and from *Bonhomme Richard* Expeditionary Strike Group, afloat in the Indian Ocean, proved invaluable in delivering relief supplies to remote areas. After the carrier

strike group left, one of the Navy's hospital ships, U.S.N.S. *Mercy*, took over the mission and deployed with a robust medical capability and the support services appropriate for disaster relief. The ship offered shipboard health services and sea-based support to a variety of military and civilian support agencies, including U.S. non-government organizations, involved in the relief effort. In addition, Sailors from the Navy Environmental Preventive Medicine Unit out of Pearl Harbor worked on improving sanitation and holding down mosquito populations, while ship's nurses went ashore and conducted classes on patient care.

Currently, Navy Medicine is deployed afloat and ashore in five geographic regions, providing preventive medicine, combat medical support, health maintenance, medical intelligence and operational planning. This operational tempo, along with the nature of casualties from Operations Enduring and Iraqi Freedom, has created new demands for medical personnel in terms of numbers and types of specialties needed. As a result, Navy Medicine analyzed the uniformed and civilian communities of medical and dental providers to ensure it is meeting operational requirements as efficiently as possible.

In order to meet the transformation requirements, the uniformed and civilian personnel composition of some Navy medical specialties will change in the near future. For example, over 1,700 non-readiness related military positions are being converted into civilian positions in 2005. We want to ensure operational requirements are fulfilled by uniformed personnel while identifying those functions that can be performed by civilian or contractor personnel. Our intent is not to eliminate positions, but rather to reduce the number of active duty personnel performing non-readiness functions.

A key component of Shaping Tomorrow's Force is the quality and innovative delivery of education and training provided to medical personnel. Streamlining our education and training assets has served us well as Navy Medicine embraces new technologies and methods of learning. These new technologies will have a profound impact upon quality of training and in saving money and time. By maximizing the use of remote-learning capabilities, Navy Medicine ensures that medical personnel have access to the right training at the right time. Also, we continue to study the value of advanced simulation training for our health care providers. By introducing simulated patients into the training curriculum, medical personnel are able to practice skills in an environment that will prepare them for real world situations.

#### *One Navy Medicine: Active and Reserve*

Navy Medicine is one team. It is comprised of tremendously capable individuals—Active Duty, Reserve and Civilian. We must seamlessly integrate the talents and strengths of our entire workforce to accomplish our dual mission—Force Health Protection and quality health care to our beneficiaries.

One of our goals is to better utilize the expertise of our Reserve force by increasing integration with the active duty component. We no longer have separate Active and Reserve fleet hospitals, but one fleet hospital system where Reservists work side-by-side with active duty personnel. The establishment of these Operational Health Support Units (OHSU) has created increased cooperation and collaboration between both components. In addition, consolidation of dental units into the OHSUs has been done to mirror changes implemented by Navy Medicine's active component.

Reservists comprise 20 percent of Navy Medicine's manpower resources and their seamless integration with our active duty force is a major priority in achieving our "One Navy Medicine" concept. Since the beginning of Operation Iraqi Freedom, more than 3,700 Reservists have been activated to be forward deployed or to meet the needs of MTFs whose active duty personnel were deployed. In addition, the Navy's Expeditionary Medical Facility Dallas deployed earlier this year to Kuwait with 382 people, 366 of which were Reservists.

Through an innovative Medical Reserve Utilization Program (MEDRUP), Navy Medicine's headquarters assumes operational control of medical Reservists called to active duty. They are selected using an information system that manages more than 6,000 Navy medical Reservists and matches personnel to requirements based on qualifications, availability and criteria. This system has proven indispensable in employing Reservists in support of the Global War on Terror.

Finally, with regard to the Reserve Component, Navy Medicine provides physical and dental services to the Navy's Reserve Force (71,500) and Marine Corps Reserve (37,734) personnel in support of individual medical readiness—a critical component prior to mobilization.

#### *Delivery of Joint Defense Health Services*

Navy Medicine's final priority addresses how we jointly operate with the Army and Air Force. Ideally, all U.S. medical personnel on the battlefield—regardless of

service affiliation—should have the same training, use the same communications system and operate the same equipment because we are all there for the same reason—to protect our fighting forces. It should not matter whether the casualty is a Soldier, a Sailor, an Airman or a Marine. The individual should receive the same care, and service medical personnel should be similarly trained to provide this same level of care. Along with the Army and the Air Force, Navy Medicine is actively pursuing the concept of standardized operating procedures to ensure consistency of health care and interoperability of our medical forces through a Unified Medical Command. As a Unified Medical Command, the mission of our separate medical departments could implement reductions to the internal costs of executing our missions while providing a framework of interoperability among the services.

Mr. Chairman, Navy Medicine has risen to the challenge of providing a comprehensive range of services to manage the physical and mental health challenges of our brave Sailors and Marines, and their families, who have given so much in the service of our nation. We have opportunities for continued excellence and improvement, both in the business of preserving health and in the mission of supporting our deployed forces, while at the same time protecting our citizens throughout the United States.

I thank you for your tremendous support to Navy Medicine and look forward to our continued shared mission of providing the finest health services in the world to America's heroes and their families—those who currently serve, those who have served, and the family members who support them.

Senator STEVENS. General Taylor.

**STATEMENT OF LIEUTENANT GENERAL GEORGE PEACH TAYLOR, JR.,  
M.D., AIR FORCE SURGEON GENERAL, DEPARTMENT OF THE AIR  
FORCE**

General TAYLOR. Mr. Chairman, Senator Inouye, Senator Mikulski, and other members of the subcommittee, it is a privilege and pleasure to be here today. I look forward to working with you on our common goals to ensure a sustained high quality of life for our military members and their families. We appreciate your interest and support in providing for America's heroes.

I am proud to say that the men and women of the Air Force Medical Service have done an exceptional job throughout Operations Nobel Eagle, Enduring Freedom, and Iraqi Freedom in providing the expeditious, state-of-the-art health care for Active duty and Reserve component personnel of all the services. We attribute our success to our continued focus on four health effects: providing care to casualties, ensuring a fit and healthy force, preventing disease and injury, and enhancing human performance.

**EXPEDITIONARY MEDICAL SUPPORT**

Our light, lean, and mobile expeditionary medical support (EMEDS), is the linchpin of our ground mission. Our EMEDS modularity has supported our field commanders by ensuring the right level of medical care is provided to our warriors wherever they are. As important, the speed with which we can deploy EMEDS is unprecedented, making EMEDS the choice for special forces and quick reaction forces in the United States, as well as abroad.

As part of a joint team, we now have more than 600 medics in 10 deployed locations, including running the large theater hospital in Balad, Iraq, and two smaller hospitals in Kirkuk and at the Baghdad International Airport. Just as in the States, these serve as regional medical facilities for all the services.

Our approximately 400 aeromedical evacuation personnel, the majority of them Guard and Reserve, are doing incredible work, ac-

completing more than 55,000 patient movements since the beginning of Operation Iraqi Freedom.

In addition, partnering with our critical care air transport teams, our aeromedical evacuation system has made it possible to move seriously injured patients with astonishing speed, as short as 36 hours from the battleground to stateside medical care, unheard of even a decade ago.

#### DEPLOYMENT HEALTH SURVEILLANCE PROGRAM

Caring for our troops also means ensuring that they are healthy and fit before they deploy, while they are deployed, and when they return home. We work very, very hard on our deployment health surveillance program. The payoff has been that we had the lowest disease non-battle injury rates of all time. That care extends beyond the area of operations. Since the first of January 2003, we have accomplished 100,000 post-deployment assessments for Air Force Active duty and Reserve component personnel with 9.5 percent requiring follow-up for deployment related medical or dental health concerns. We are meticulously tracking every airman to ensure that he or she receives all the health care needed, including mental health help, which I would like to describe in some detail.

We deploy two types of mental health teams to support our deployed airmen, a rapid response team and an augmentation team. We currently have 49 mental health personnel deployed for current operations, 31 of whom are supporting Army or joint service requirements. Behavioral indicators during OEF and OIF are encouraging. In our review of data from fiscal years 2000 and 2004, child abuse rates remained virtually unchanged, and spouse abuse rates and alcohol-related incident rates actually declined over the past 5 years. To date, there have been no Air Force suicides in Iraq or Afghanistan during OEF or OIF.

However, we are increasingly supporting Army and Marine operations. We need to be prepared for our Air Force troops to have greater exposure to traumatic stress. Initiatives to reassess the mental health status of our personnel, 90 to 180 days post-deployment, will allow us to better monitor and address mental health needs as they emerge.

#### FIT TO FIGHT PROGRAM

Another critical way we are protecting the health of Air Force members is with a revitalized physical fitness program that will improve their safety and performance in the expeditionary environment and help them survive significant injury and illness. Our fitness centers have seen an approximate 30 percent jump in use. I am proud to be part of General Jumper's strong push, fit to fight, an initiative that has focused on both the individual and commander responsibilities for health and well-being.

#### EPIDEMIC OUTBREAK SURVEILLANCE PROJECT

Our prevention efforts also include cutting edge research and development, such as the epidemic outbreak surveillance project (EOS), an Air Force initiative that combines existing and emerging biodefense technologies that will eventually be deployed worldwide

for near real-time total visibility of biological threats to our troops. Through gene shift technology, EOS will offer us the power of knowing when and who a disease is stalking. This is the incredible medicine of the future that will change how we do business forever, and we are doing it now in the Air Force.

#### COMPOSITE OCCUPATIONAL HEALTH AND OPERATIONAL RISK TRACKING SYSTEM

Another of our exciting initiatives, created with your help, is the composite occupational health and operational risk tracking system known as COHORT, a program that links Air Force information systems such as personnel and operational medical systems to surveillance activities, allowing us to track the occupational health of our personnel throughout their careers and beyond.

We are also particularly grateful to this subcommittee for support of our crucial laser eye protectant initiative which will help us study, prevent, detect, and treat laser eye damage.

We continue to partner with civilian institutions for training in critical care, such as our Center for Sustainment of Trauma and Readiness Skills (C-STARS) platform at Baltimore Shock Trauma, as well as groundbreaking research in telemedicine and other areas.

#### TRICARE

Perhaps not as high-tech, but certainly one of the greatest tools we have to ensure the health of our troops is TRICARE. The TRICARE strategy is vitally important to us, even more so in wartime. It supplants direct care for the Active duty member, provides peace of mind that family members are taken care of, and ensures health care access for our Guard and Reserve members in all our communities. Peacetime health care through TRICARE cannot be separated from our primary wartime mission. We have one mission: to care for our troops and their families.

#### PREPARED STATEMENT

There remain great challenges in our military health care system. These include sustaining a world-class environment of practice for our men and women practicing medicine and dentistry in military facilities around the globe. I am eager to work with the Congress as we mold and improve your military health care system, a system that has no peer, no rival, one that is true to those who work in it every day and one that is deserving of the sacrifice and dedication of men and women in uniform.

Thank you, Mr. Chairman and members of the subcommittee.  
[The statement follows:]

#### PREPARED STATEMENT OF LIEUTENANT GENERAL GEORGE PEACH TAYLOR, JR.

Mr. Chairman, Senator Inouye, and members of the committee; it is a pleasure to be here today to share with you stories of the Air Force Medical Service's success both on the battle front and the home front.

Air Force medics continue to prove their mettle, providing first class healthcare to more than 1.2 million patients. Additionally, we continue to have medics far from home, supporting air and land operations from the Philippines to Kyrgyzstan to Iraq.

The Air Force Medical Service, or AFMS, and medics from our sister services have undertaken the most significant changes in military medicine since the beginning of TRICARE. In the last few years, we have fielded the largest increase in benefits since the creation of Medicare and CHAMPUS in the mid-1960s.

At the same time, we are medics at war. We have been engaged in battle for nearly 4 years. Not since Vietnam has our operations tempo been as elevated. Not since then has combat been as continuous. The Global War on Terror is the most significant engagement of this generation . . . and I am immensely proud of the medical and dental care we provide anywhere, anytime.

Some have the opinion that wartime and peacetime care are two separate and distinct missions. I disagree strongly. We have one mission: to care for our troops, which includes their families. The home-station and deployment sides of that mission are inextricably linked. We are able to achieve the necessary balance because of our ability to focus on what we call our four health effects, the four most important services medics contribute to the fight. The four health effects are:

- (1) Ensuring a fit and healthy force
- (2) Preventing illness and injury
- (3) Providing care to casualties, and
- (4) Enhancing human performance

These four effects are what medics must bring to the fight, everyday, from White-man Air Force Base in Missouri, to Balad Air Base in Iraq.

#### ENSURING A FIT AND HEALTHY FORCE

##### *Air Force Fitness Program*

The Air Force's most important weapon system is the Airman. We invest heavily in our people to ensure they are mentally and physically capable of doing their job. They need to be; we ask them to launch satellites, fix aircraft, perform surgery, pilot multi-million dollar aircraft, and thousands of other tasks used to support and execute battle. Commanders need their Airmen to perform these tasks in harsh environments, under extreme stress, often under fire. If any of them is unfit or too ill to accomplish their roles, the mission suffers.

The Roman General Renatus wrote that "little can be expected from men who must struggle with both the enemy and disease."

In other words, if we aren't fit, we can't fight.

Two years ago, General Jumper, our Chief of Staff, unveiled the Air Force's new program to improve fitness. The Fit to Fight initiative puts greater emphasis on physical fitness training to enhance not only the ability of Airmen to work in the challenging expeditionary environment, but also the ability to sustain significant injury and illness far from home and be able to survive field care and long-distance aeromedical evacuation. Fit to Fight is working. Across the Air Force, fitness center managers report that usage of their facilities is up 30 percent. The results: before the program started only 69 percent of Airmen passed their fitness test. Now, even with more stringent requirements, we have an 80 percent pass rate.

Additionally, a secure web site gives commanders up-to-the-minute reports on the status of their active duty, Guard, and Reserve troops' fitness levels. Now leaders know instantly what percentage of their troops are fit to fight.

True fitness is measured by more than strength and stamina—it involves a whole person concept that includes physical, dental, and mental health. Our Deployment Health Surveillance program gives us visibility over each of these important health factors.

We can never forget that we ask our fighting men and women to do so in harsh environments, far from home, far from sophisticated health care facilities. A healthy, fit warrior is much better able than a less-fit person to sustain a significant illness or injury and be stabilized for long distance travel.

##### *Deployment Health Surveillance program*

Our fitness and Deployment Health Surveillance programs complement each other. The first provides healthy troops to the fight, the second maintains and monitors their health. We are very proud of our Deployment Health Surveillance program that has resulted in our lowest Disease Non-Battle Injury Rates (DNBI) of all time, about 4 percent across the Department of Defense. The Air Force Medical Service conducts a variety of activities that ensure comprehensive health surveillance for our Total Force Airmen pre-, during, and post-deployment, and indeed, throughout their entire careers.

Annual Preventive Health Assessments ensure each Airman receives required clinical preventive services and meets individual medical readiness requirements. This data is conducted globally and recorded in an AFMS-wide database—therefore,

the health of each Airman, whether active duty, Guard or Reserve, can be tracked throughout his or her service and in any location. This is an invaluable medical readiness tool for commanders.

Pre-deployment medical assessments are performed on every Airman who deploys for 30 or more days to overseas locations without a fixed medical facility. While deployed, the member is protected by preventive medicine teams who identify, assess, control and counter the full spectrum of existing health threats and hazards, greatly enhancing our ability to prevent illness and injury.

These Preventive Aerospace Medicine teams, or PAM teams, are our unsung heroes. They are small units—usually only three or four people—including an aerospace medicine physician, bioenvironmental engineer, public health officer and an independent duty medical technician. They are among the very first boots on the ground whenever we build a base in theater. Before the fence is raised and the perimeter secured, these medics are securing the area against biological and chemical threats. PAM teams sample and ensure the safety of water, food, and housing. They eliminate dangers from disease-carrying ticks, fleas, and rodents. Ultimately, they can claim much of the credit for the extremely low Disease Non-Battle Injury Rate.

As our troops redeploy, post-deployment assessments are conducted for the majority of Airmen in-theater, just before they return home. Commanders ensure that all redeploying Airmen complete post-deployment medical processing immediately upon return from deployment, prior to release for downtime, leave, or demobilization.

During this process, each returning individual has a face-to-face health assessment with a health care provider. The assessment includes discussion of any health concerns raised in the post-deployment questionnaire, mental health or psychosocial issues, special medications taken during the deployment, and concerns about possible environmental or occupational exposures. The health concerns are addressed using the appropriate DOD/VA assessment tool such as the Post-Deployment Health Clinical Practice Guideline.

Since the first of January 2003, we have accomplished 100,000 post-deployment assessments for Air Force members, including almost 27,000 from our Air Reserve Component, or ARC, personnel. Of these assessments, we identified approximately 6,500—or 9 percent—active duty and about 3,000—or 11 percent—ARC personnel that required a follow-up referral. This equates to only 9.5 percent of our returning personnel that require follow-up due to deployment-related medical or dental health concerns.

To better ensure early identification and treatment of emerging deployment-related health concerns, we are currently working on an extension of our post-deployment health assessment program to include a re-assessment of general health with a specific emphasis on mental health. It will be administered within six months of post-deployment using a standard re-assessment process. The re-assessment will be completed before the end of 180 days to afford Air Reserve Component members the option of treatment using their TRICARE health benefit.

I am pleased to report that a recent Government Accountability Office audit on Deployment Health Surveillance concluded that our program had made important improvements and that from 94 percent and 99 percent of our Airmen were receiving their pre- and post-deployment assessments.

To address the mental health needs of deployed Airmen, the Air Force deploys two types of mental health teams: a rapid response team and an augmentation team. Mental health rapid response teams consist of one psychologist, one social worker and one mental health technician. Our mental health augmentation teams are staffed with one psychiatrist, three psychiatric nurses and two mental health technicians. Deployed mental health teams use combat stress control principles to provide consultation to leaders and prevention and intervention to deployed Airmen. The Air Force currently has 49 mental health personnel deployed for current operations, 31 of whom are supporting Army or joint service requirements. We currently use psychiatric nurses at our aero-medical staging facilities to better address emerging psychological issues for Airmen being medically evacuated out of the combat theater.

The Air Force is also in the process of standardizing existing redeployment and reintegration programs, which help Airmen and family members readjust following deployments. These programs involve collaborative arrangements among the medical, chaplain and family support communities. Airmen and their families can also take advantage of The Air Force Readiness Edge, a comprehensive guide to deployment-related programs and services, as well as Air Force OneSource, a contractor-run program that provides personal consultation via the web, telephone or in-person contacts. AF OneSource is available 24 hours a day, and can be accessed from any location.

After deployments, psychological care is primarily delivered through our Life Skills Support Centers, which deliver care for alcohol issues, family violence issues

and general mental health concerns. Staffing of more than 1,200 professionals includes a mix of active duty, civilian and contract personnel who serve as psychiatrists, psychologists, social workers, psychiatric nurses and mental health technicians. We currently offer ready access to mental health care in both deployed and home-station locations.

The Air Force also looked at several behavioral indicators from fiscal year 2000 to fiscal year 2004 to examine trends before and after initiation of OEF and OIF. Child abuse rates were virtually unchanged throughout the Air Force over the 5-year span, and spouse-abuse rates and alcohol-related incident rates actually declined somewhat over the past 5 years. To date, there have been no Air Force suicides in Iraq or Afghanistan during OEF and OIF. Since the onset of OEF (Oct. 7, 2001), there have been 125 suicides in the Air Force. Only four suicides involved personnel who had been previously deployed to Iraq or Afghanistan, representing a rate (4.2 per 100,000) much lower than the Air Force historical average over the last 8 years (9.7 per 100,000). The Air Force Chief of Staff has placed increased emphasis on adherence to existing Air Force suicide prevention policies in recent months, and the current very low rates so far for this fiscal year (7.1 per 100,000 as of March 2, 2005) are encouraging.

Our reviews indicate that deployed Airmen have faced less exposure to traumatic stress than their Army and Marine counterparts, and therefore have experienced less psychological impact during current operations. We must be prepared, however, for this to change. More recently, Air Force personnel have been called upon to support convoy operations. Additionally, future operations may place additional demands upon our Airmen, and we must be ready to respond. Initiatives to re-assess the mental health status of our personnel 90–180 days post-deployment will allow us to better monitor and address mental health needs as they emerge.

#### PREVENTING CASUALTIES

Today's Global War on Terrorism will be with us for years to come. Terrorism confronts us with the prospect of chemical, biological, and radiological attacks. Of those, the most disconcerting to me are the biological weapons. Nightmare scenarios involving biologicals include rapidly spreading illnesses, ones so vicious that if we cannot detect and treat the afflicted quickly, there would be an exponential onslaught of casualties.

Just as General Jumper talks about the need for our combatants to find, fix, track, target, engage and assess anything on the planet that poses a threat to our people—and to do so in near real time—so must medics have the capability to find biological threats, and to track, target, engage and defeat such dangers; whether they are naturally occurring—like Severe Acute Respiratory Syndrome, or ARS—or manmade, like weaponized smallpox.

The rapidly advancing fields of biogenetics may provide the technology that allows us to identify and defeat these threats. Many consider the coupling of gene chip technology with advanced informatics and alerting systems as the most critical new health surveillance technology to explore—and we are doing it now in the Air Force.

#### *Silent Guardian*

This evolving technology was tested recently in a Deployment Health Surveillance exercise in Washington, DC. The test started shortly before the inauguration and ended with the close of the State of the Union Address. The exercise, codenamed Silent Guardian, involved the military medical facilities that ring the National Capital Region. We placed teams in each of these facilities to collect samples from patients who had fever and flu-like illnesses. The samples were then transported to a central lab equipped with small, advanced biological identification unit—the “gene chip” I mentioned—capable of testing for, and recognizing, scores of common or dangerous bacteria and viruses. And when I say small, I mean that the gene-reading chip at the center of this system is smaller than a fingernail.

To run this many tests using the technology we normally use today would require a large laboratory, two to five weeks, numerous staff, and thousands of swabs and cultures dishes. But this new analyzer is closer in technology to the hand-held medical tricorder used by Dr. McCoy in Star Trek than it is to the swab-culture-wait-grow method currently used.

We knew the test results within 24 hours, not the days or weeks required in the past. All results were entered into a web-based program that tracks outbreak patterns on a map. Additionally, we had mechanisms in place to automatically alert medics and officials of potential epidemics or biological attacks.



### *Epidemic Outbreak Surveillance*

The systems used in Silent Guardian are a small part of the Epidemic Outbreak Surveillance project, or EOS, an Air Force initiative that combines existing and emerging biodefense technologies by using a “system of systems” approach in a rigorous real-world testbed. This project is currently in the Advanced Concept Technology Demonstration phase, but we hope to eventually deploy this technology to military bases worldwide for near real-time, total visibility of biological threats to our troops. These threats are not just those of biological warfare, but I want this team to focus on threats to our troops from naturally occurring disease outbreaks, from adenovirus to influenza. Imagine the power of knowing when and who a disease was stalking!

When fielded, EOS will integrate advanced diagnostic platforms, bio-informatic analysis tools, information technology, advanced epidemiology methods, and environmental monitoring. Alone, none of these provide a defense against a biological attack, either natural or manmade. Woven together, they create a biodefense system that permits medics to rapidly identify threats, focus treatment, contain outbreaks, and greatly decrease casualties.

Another exciting advancement we expect to start transitioning this year is our technical ability to create an unlimited number of COHORTs of each Airman, which will provide occupational and medical surveillance from the time he or she joins the Air Force until retirement or separation, regardless of where the Airman serves or what job he or she performs. We will finally be able to tie together medical conditions, exposure data, duty locations, control groups, and demographic databases to globally provide individual and force protection and intervention, reducing disease and disability. These tools will be working in near real time, and eventually will be automated to work continuously in the background to always be searching for key sentinel events.

Diabetes is another enemy that takes lives, and it too can be defeated. We have been collaborating with the University of Pennsylvania Medical Center to create Centers of Excellence for diabetes care. Diabetes can affect anyone—in or out of uniform—so this effort promises to improve the lives of all beneficiaries. Together, we are seeking ways to prevent and detect the onset of diabetes while providing proven, focused prevention and treatment programs to rural communities, minority populations, the elderly and other populations prone to this disease.

### RESTORE HEALTH

#### *High Survivability Rate*

We have enjoyed significant success in the third health effect we bring to the fight—that of restoring the health of our sick or injured warriors. Innovations in both technology and doctrine are dramatically improving survival rates of our troops on the battlefield.

During the American Revolution, a soldier had only a 50/50 chance of living if injured on the battlefield. From the Civil War through World War II, about 70 percent of the injured survived their injuries. Aeromedical evacuation in Vietnam is partly responsible for increasing the survival rate to nearly 75 percent. During Operation IRAQI FREEDOM (OIF), 90 percent of those injured in combat survived their wounds. We attribute this success to the combination of our rapidly deployable modular Expeditionary Medical units, excellent joint operations, and our transformed aeromedical operations.

#### *EMEDS*

The Expeditionary Medical Support concept, or EMEDS, has proven itself invaluable in OIF. EMEDS is a collection of small, modular medical units that have predominantly replaced our large, lumbering theater hospitals. Big things come in small packages, and there are at least three big benefits to these small EMEDS:

First, by breaking up our large deployable medical facilities, we can spread our resources geographically to locations around the globe where they are needed the most; an efficient use of our assets.

Secondly, EMEDS units are easier to insert far forward and integrate with other services, so our medics are closer to the action and closer to the wounded who need our lifesaving skills. For example, our Aeromedical Evacuation Liaison Teams and aeromedical staging facilities were loaded into humvees and provided direct combat service support to the Army V Corp and 1st Marine Expeditionary Forces convoys as they fought their way along the Tigris and Euphrates from northern Kuwait to Baghdad in 2003.

Finally, these units are small, light, and lean. How small? The people and equipment comprising the entire Air Force medical support in OIF have taken up less

than one percent of the cargo space of all assets headed to the war. EMEDS' small footprint allows us to pick them up and put them down anywhere quickly. We get to the fight faster. For example, in OIF, we opened 24 bases in 12 countries in a matter of months, each with a substantial EMEDS presence. That formidable presence served not only Air Force troops, but also ground forces throughout the region. To further ensure quality care, we deployed over-pressurized tents that are capable of keeping biological and chemical weapons from seeping into our medical facilities.

EMEDS' modularity allows its components to be mixed and matched effortlessly with other EMEDS units or even another Service's assets to create the package of medical care required. Whether it's a small clinic or a large 250-bed hospital that does everything short of organ transplants, the right level of medical care is prescribed and provided to our warriors.

The speed with which these EMEDS deploy is phenomenal. One of our first EMEDS units in theater was a 25-bed hospital based at the Air Force Academy in Colorado. The time elapsed from the moment EMEDS members got their telephone call notifying them of deployment, gathered and transported all 100 medics and their equipment, pitched their tents in Oman, and saw their first patient, was just 72 hours. Because of this capability, we are the medics of choice for Special Forces and for quick-reaction forces in the United States and abroad.

Less than one month after the September 11th, 2001, attacks, a medical team supporting Special Operations saved the life of the first soldier severely injured while supporting Operation ENDURING FREEDOM. Exactly 3 years later, on September 11th, 2004, Air Force medics accomplished the miraculous save of a horribly wounded Airman in Baghdad. I will share this story later in my statement. But in between and since these two remarkable medical events, there have been volumes of compelling stories reflecting the awesome capabilities of the Air Force Medical Service and our joint Air Force-Army-Navy medical team as we care for our troops.

#### *Caring for Iraqis*

Not all of our patients are American military members. Throughout this conflict, we have treated Iraqi civilians, our Iraqi allies, and even the enemy. After Saddam was toppled, we moved hospitals into places like Tallil, Baghdad International Airport, and Kirkuk, where we continue to treat all those caught in harm's way, whether friend or foe.

To emphasize that point, I have two very compelling stories concerning the care we provide Iraqi nationals. The first involves a horribly wounded detainee believed to have received his wounds while engaged in combat against our troops. He was going to be transferred to an Iraqi hospital, but begged to remain with American doctors until his wounds were resolved. His words to our Air Force surgeon were, "If I go, I will surely die. I trust only you."

This trust and faith in Americans plays a role in my next story, too. Air National Guard medics from the EMEDS at Kirkuk treated a group of badly injured Iraqis brought into camp by American soldiers. While the camp was under mortar fire, our medics worked to save the men. By morning, all were stabilized. They were transported to another medical facility the following day. Captain Julie Carpenter, a nurse, rode with one of the men, and because he was still in pain, she tried to provide some comfort. She would look in his eyes or hold his hand because, as she said, "I wanted him to feel he wasn't alone; I imagine it was scary for him."

She thought little of the incident until days later she learned that the thankful families of these injured Iraqis approached American troops and provided information that led our troops to the location and the capture of Saddam Hussein.

Expeditionary health care is a military tool that not only saves lives; it can turn confrontation into cooperation, revealing compassion to be the long arm of diplomacy.

#### *Expeditionary Health Technology*

Restoring health in the expeditionary environment requires that our dedicated medical professionals are equipped with cutting-edge technology. For example, we are seeking techniques to convert common tap or surface water into safe intravenous (IV) solutions in the field. We are also developing the ability to generate medical oxygen in the field rather than shipping oxygen in its heavy containers into the field.

Telehealth is another fascinating technology that enhances the capabilities of our medics. It allows a provider in Iraq to send diagnostic images such as X-rays through the Internet back to specialists located anywhere in the world, Wilford Hall Medical Center, for instance, for a near real-time consult. This insures that each Soldier, Sailor, Airman or Marine in the field has access to one of our outstanding specialists almost anytime and anywhere.

### *Aeromedical Evacuation*

Restoring health also means bringing casualties back from the front as quickly as possible to sophisticated medical care. The Air Force Medical Service makes its unique contribution to the Total Force and joint environment through our aeromedical mission and the professionals who perform it. The job of Aeromedical Evacuation crewmembers is not easy. They must perform the same life-saving activities their peers accomplish in hospitals, but in the belly of an aircraft at over 20,000 feet. The conditions are sometimes challenging as crew members work under the noise of the engines or when flying through turbulence—but there is no place else they would rather be. TSgt Pamela A. Evanosky of the 315th Aeromedical Evacuation Squadron out of Charleston AFB said, “AE is exhausting duty. But I love it. I know everyday that I make a difference. This is the most honorable and rewarding work I could possibly ever do.”

It truly is rewarding, and I am very proud to report, that Sergeant Evanosky and her fellow AE crewmembers have accomplished over 55,000 patient movements since the beginning of OIF, and they have never lost a patient.

### *Critical Care Air Transport Teams*

Occasionally, our AE crews transport a patient who is so ill or injured that they require constant and intensive care. When that happens, our AE medical capability is supplemented by Critical Care Air Transport Teams, or CCATTs. These are like medical SWAT teams that fly anywhere on a moment’s notice to retrieve the most seriously injured troops. Team members carry special gear that can turn almost any airframe into a flying intensive care unit (or ICU) within minutes. An in-theater EMEDS commander told me that CCATTs are a good news/bad news entity. He said, “The bad news is, if you see the CCATT team jumping on a plane, you know someone out there is hurt bad. The good news is, if you see CCATT jumping on a plane, you know that someone will soon be in the miraculous hands of some of the best trained medics in existence.”

No discussion of aeromedical evacuation is complete without recognizing the critical contribution of the Reserve Component. About 88 percent of AF Aeromedical Evacuation capability is with the Guard and Reserve. I am deeply proud of and awed by their dedication and self-sacrifice in delivering sick and often critically injured troops from the battlefield into the care of their families and our medics at the home front.

### *The Miracle of Modern Expeditionary Medicine*

The seamless health care we provide with our Sister Services from battlefield to home station can be illustrated by the miraculous, life-saving story of Senior Airman Brian Kolfage.

Airman Kolfage suffered horrendous wounds when an enemy mortar landed near him. These mortars have a kill radius of 150 feet. Kolfage was about 10 feet away. The blast threw him half the length of a football field. It shredded both legs and his right arm. Normally, no one could survive such an injury, but an Air Force medic who was close by when the blast occurred was able to respond immediately.

The field surgeons had Airman Kolfage on the operating table in five minutes and were able to stabilize him. Aeromedical Evacuation crews and CCATT teams transported him halfway around the world to Walter Reed Army Medical Center.

Senior Airman Kolfage was airlifted from the site of injury over 6,000 miles away to a hospital just 6 miles from where we now sit. And this all happened in a time span of just 36 hours. That is something that could not have happened in previous conflicts.

Airman Kolfage lost both legs and his right hand. But he has definitely not lost his spirit. He arrived at Walter Reed flat on his back, but vows to walk out of there. I believe him. He takes vows seriously. As a matter of fact, he just exchanged them with his girlfriend—now wife—whom he recently married at Walter Reed.

This is a miracle of modern technology, seamless joint medical operations, and the resiliency of youth. In any other war, this young man would have lost his life; now he has it all before him.

Every day the Air Force Medical Service sees thousands of patients. We try to make a difference with each individual; in Airman Kolfage’s case, we know for sure we made the ultimate difference.

### ENHANCE HUMAN PERFORMANCE

The fourth health effect we contribute to warfighting is the enhancement of human performance. Helping Airmen perform to the best of their abilities means we must have people who are highly trained, competent, and equipped with advanced technology that can both help them do their jobs and protect them while

doing so. We are seeking to enhance human performance for our troops through cutting-edge research and development that will improve the safety and performance of our troops in the expeditionary Air Force.

For example, we continue to pursue methods of enhancing our member's eyesight. Obviously, good vision has always been important to our troops, particularly pilots whose eyes may be their navigators. But detecting and protecting our troops' eyesight is especially critical now that Directed Energy Weapons, or Lasers, are widely available and capable of inflicting great injury to the eye.

A laser pointed into an eye can temporarily or even permanently damage an Airman's vision, so we seek special lenses for eyewear and helmet shields that can block harmful laser rays. Detecting laser eye injuries can be difficult; treating such injuries is currently next to impossible. Consequently, we are fielding retinal surveillance units in high-threat areas to accomplish eye exams, always looking for evidence of laser damage. We are searching for valid therapies to treat these types of newly recognized injury patterns. No such therapy currently exists.

Finally, we'll push the envelope on ocular technologies by trying to create vision devices that will allow our Airmen to see to the theoretical limit of the human eye, which some say is 20-over-8. If successful, this will provide our pilots and warriors the ability to see twice as far as an adversary.

#### *The Changing AFMS Construct*

The AFMS faces the challenge of delivering these four health effects in times of significant change in the two constructs in which we operate; that of medicine and of military operations planning—how we fight wars.

#### *Changes in Health Care*

Health care has changed radically in the past 15 years. In my tenure as a physician, advances in pharmaceuticals, diagnostics—like the CAT scan and MRI—fiber optic techniques such as laparoscopy, arthroscopy, and the use of stents for blocked arteries, and anesthesia breakthroughs have radically altered our military treatment facilities. In the private sector, small, full-service hospitals have gone the way of the eight-track tape, replaced by more efficient medical complexes that focus on outpatient care and ambulatory surgery.

The same pressures that prompted civilian health care facilities to move to outpatient surgery have influenced transitions in the Air Force delivery of health care as well. Historically, we structured ourselves to have hospitals at most bases. We now have substantially transitioned our facilities to the point where fewer than 30 percent of our bases have hospitals. In fact, if you look today, we have fewer hospital beds in the entire Air Force, 740, than existed at the Air Force's Wilford Hall Medical Center in 1990, which had 855.

Another important way the military has adapted to the changing health care construct is to operate much more closely with sister service and civilian hospitals to provide comprehensive patient care. For instance, the Landstuhl Army Medical Center in Germany—the first stop for many of our wounded returning from Afghanistan and Iraq—has a contingency of almost 300 permanent-party Airmen working side-by-side with their nearly 900 Army counterparts.

We enjoy a similar sharing opportunity with the University of Colorado at Denver. Most of nearby Buckley Air Force Base's patient care assets are now located at the University's Fitzsimmons medical campus. Our close working relationship with the university hospital and its president, Dennis Brimhall, are responsible for the efficient and innovative use of medical resources and quality care for our beneficiaries.

Strong relationships with civilian agencies—like that of our Center for Sustainment of Trauma And Readiness Skills, or C-STARS program—have benefited both our peacetime TRICARE and wartime AEF missions. The Air Force has three of these centers, one each in the Cincinnati University Hospital Trauma Center in Ohio, Saint Louis University Hospital in Missouri, and the R. Adams Cowley Shock Trauma Center in Baltimore. Military medics work in tandem with their civilian counterparts there to care for seriously ill or traumatically injured patients, patients seldom seen in military MTFs. These programs prepare our providers for deployment by exposing them to the wounds they will treat in combat. In the future, we will be looking for new ways to partner with these civilian institutions, such as in education and research and development.

#### *Changes in War-Fighting*

The second construct change is that of the Air Force mission itself. When I entered the Air Force in the late 1970s, we planned, trained, and equipped our medics on the basis of the threats faced in two major operational plans of short duration.

That construct is no longer valid, as can clearly be seen with the Global War on Terrorism.

The Air Force created its Air Expeditionary Force structure, in part, in response to this new construct. The AFMS needed to restructure itself, too, so that it could face multiple commitments overseas of both short and long duration. Our nation requires that medics field combat support capabilities that are very capable, rapidly deployable, and sustainable over long periods. This has driven three additional changes to our medical system. Our people must be trained, current, and extractable to support the warfighter. Medics must be placed at locations where they can maintain the skills they need for their combat medicine mission. It is also vital that these locations must allow the medics to deploy easily without significantly interrupting the care they provide the base or TRICARE beneficiaries, especially at those locations with sustained medical education training programs.

This is exactly the challenge that the Air Force Chief of Staff Gen. John P. Jumper issued to me in creating expeditionary medics: medics who are focused on developing the skills for the field and eager to deploy for four of every 20 months.

We are assigning medics at large facilities into groups of five so that one team can be deployed at any one time while the other four remain to work and train at home stations. We are also reviewing the ratio of active-to-reserve medics and asking ourselves important questions: What mix of the active duty to reserve component will ensure the best balance between the ability to deploy quickly and the capability to surge forces when necessary?

Finally, we are actively reviewing the total size of the AFMS to make sure that over the next few decades we can successfully fulfill our wartime mission while still providing the peacetime benefit to our members, retirees, and their families.

#### *TRICARE*

The next generation of TRICARE contracts is now completely deployed. The transition was smoother than that experienced in the last contract transition in the 1990s. Service contracts are now in place to fully support the benefit enhancements to our active and reserve forces that were temporary in 2004, but made permanent by the fiscal year 2005 National Defense Authorization Act. Although we experienced some challenges with referral management, both the government and our contractors are working to find solutions and we have seen improvement over the past several months. We will continue to work this issue aggressively as access both in the direct care system as well as the network continues to be closely monitored.

The TRICARE benefit is generous, and many retirees who have the choice between our care and that offered by their civilian insurers are opting for the military's medical system. In spite of the increase in benefits and the ever-growing population to whom it is delivered, the TRICARE system continues to receive satisfaction ratings superior to that of civilian health care systems.

#### *Working with the Department of Veterans Affairs*

Our concern about the care of our beneficiaries continues even after they have left the DOD system; therefore, the DOD/VA Resource Sharing Program continues to be a high priority for the Air Force Medical Service. The new Health Executive Council is making promising steps toward removing barriers that impede our collaborative efforts. We constantly explore new areas in which we can work to jointly benefit our patients and are currently finding these opportunities in information technology, deployment health medicine, pharmacy, and contingency response planning and patient safety programs. We are particularly proud of progress toward improving transitional services and the delivery of the benefit to our separating service members. These combined, cooperative efforts are a win-win-win for United States, the VA, and most importantly, our beneficiaries. Of course, I remain very proud of our numerous joint VA-Air Force operations, from Anchorage to Las Vegas, from Albuquerque to Travis Air Force Base California, we continue to team well with the VA.

#### *Recruiting and Retention*

The AFMS continues to face significant challenges in the recruitment and retention of physicians, dentists, and nurses; the people whom we depend upon to provide care to our beneficiaries. The special pays, loan repayment programs, and bonuses to our active and reserve component medics do help, and I thank you for supporting such programs. Nearly 85 percent of nurses entering the Air Force say they joined in large part because of these incentives.

We also recognize the importance of maintaining a modern and effective infrastructure in our military treatment facilities, from clinics to medical centers. The atmosphere in which our medics work is as important as any other retention factor. We have wonderful patients, patriotic and willing to sacrifice. They deserve not only

the most brilliant medical and dental minds, but first class equipment and facilities. Every day, I strive to make that happen.

#### *Conclusion*

The Air Force Medical Service is proud to be part of a joint medical team that provides seamless care to America's heroes, no matter what Service they are from. We can boast of a full-spectrum, effects-based health care system. Our focus on a fit and healthy force coupled with human performance enhancement strategies and technologies, promotes maximum capability for our Total Force warriors. Our health surveillance programs keep them and their units healthy day to day, ready to take on the next challenge. When one of our warriors is ill or injured, we respond rapidly through a seamless system from initial field response, to stabilization care at our expeditionary surgical units and theater hospital, to in-the-air critical care in the aeromedical evacuation system, and ultimately home to a military or VA medical treatment facility. Across service lines, at every step, we are confident that our Soldiers, Sailors, Airmen and Marines—active duty, Guard and Reserve—are receiving the high level of medical care they deserve, from foxhole to home station.

As we work to improve upon this solid foundation, the men and women of the Air Force Medical Service, at home or deployed, remain committed to caring for our troops. We appreciate your support as we build to the next level of medical capability.

Thank you.

Senator STEVENS. Thank you very much, gentlemen.

We have had enormous response as a volunteer military in terms of those people who have been coming in, particularly the younger people. What success have you had in terms of increasing enlistment of medical professionals and retaining them after they come in? For instance, are our bonuses and other initiatives giving you good enough tools to assure a sufficient number of reenlistments? No one is really talking about this so far as I can see. But it has got to be different now than it was back in the days of the draft. How are you doing in terms of recruitment and retention? General Kiley.

#### MEDICAL PROFESSIONALS RECRUITING AND RETENTION

General KILEY. Sir, thank you for the question. I think there are two parts to it. Our enlisted combat medic recruiting and retention appears to be going pretty well. As you know, our combat medics are emergency medical technician-basic (EMT-B) certified, and that seems to have been a draw for many young men and women to get the opportunity to get that certification.

The area we are concerned with, which I think you are also asking about, is the area of our professional officer corps, recruiting and retaining them, both physicians and nurses. We are still short, in terms of our authorizations, against what we have on hand for both corps. Specifically, we project this year to be close to 200 nurses short in terms of our total end strength.

Senator STEVENS. What about doctors, physicians?

General KILEY. Sir, we are probably close to that same number short in physicians. The dynamics are slightly different for the two corps. I think Colonel Bruno will tell you that there is a nationwide shortage of nurses and nursing starts in terms of young men and women who would like to go into nursing as a profession, a lot more that would like to than can get into school. That is one problem.

We have not offered, until recently, the same level of scholarship opportunities that we are offering now, and we are starting to get some interest in scholarships in nursing school and also in ROTC.

We have had some difficulty in retaining nurses. This is for the same reasons as we have with physicians. This is hard duty and deployment for 1 year. It is relatively new, even though we have been in the global war on terrorism since 9/11. For some, the potential for repetitive deployments has been a little bit of an issue.

I am encouraged. We are taking some steps recently to increase bonuses and to look at other opportunities to get nurses on board.

For physicians, recently the Congress increased the ceilings on retention bonuses for physicians. We have not fully funded those inside the services to the maximum for all physicians. There has been an effort between the three services to balance the amount of bonuses per specialty, focusing on combat-relevant specialists. I think the personnel tempo (PERSTEMPO), the deployment tempo, the long deployments have also been a challenge for some of our physicians also. About half of the physicians in our Army that are not in training as interns and residents have had at least one deployment, and many are on the second deployment. We have got some of our general surgeons that are on a third deployment now between the Bosnia and Kosovo, Afghanistan, and now Iraq operations.

I think it is a little too early to tell in terms of long-term retention for physicians what the personnel tempo of the physicians in terms of deployments and redeployments will be on retention. I am still encouraged. I just talked to a young physician the other day who took great pride in the fact that he spent 1 year with combat troops in Iraq and is now back in a training position, training the next generation of physicians. We have increased the bonuses and we continue to work that.

We are also working to get clearer data which, believe it or not, tells us each physician, as they arrive at a point where they can actually make the decision do I get out or do I sign up for another bonus. We do not actually know the numbers. We have got a fair number of continuation data, how many doctors continue to stay on, and those numbers look relatively good. But I am authorized to 43–47 I believe, and I am at about 41–50, plus or minus. The cycle changes. Over the summer we lose and gain, and then in the fall we lose and gain again.

So I am concerned. I think we have been at our global war on terrorism and this deployment challenge for physicians and nurses long enough that those that have had bonuses that they are letting run out are now at the point where they are starting to let them run out.

Our certified nurse anesthetists. We increased the bonuses for certified nurse anesthetist recognizing that we had a real retention problem. And the preliminary indications are that they have responded to those increased bonuses and that we have signed up a fairly large number of our critical nurse anesthetists.

So it is a mixed picture right now. We are watching it pretty carefully. We have got a whole host of new plans and programs working with our recruiting command getting physicians and nurses engaged in going to facilities and talking to doctors and medical students as a way to bring them on board. So I think we do not have the final answer yet, but I remain concerned about that.

Senator STEVENS. You mentioned homeland security. Are you prepared to take on the problems of homeland security through your Reserve and Guard? Do you have enough medical people in those areas?

General KILEY. Well, that also is an area of concern. As you know, we have a policy now, a 90-day boots on the ground, for physicians and dentists, so that they can preserve their private practices. I do think it is a challenge for the Reserves. The nature of health care in the private sector is such that physicians cannot afford in their practices to leave for 6 months or 1 year, and so they are very reluctant to sign up.

We do watch the numbers very closely, and depending on the nature of the mission, we may be stretched very thin using medical reserves to support significant homeland defense operations. I do not have any more specific answer to that question. I know it is a concern for us.

Senator STEVENS. Do you have any comment on those questions, Admiral?

#### RECRUITMENT AND RETENTION

Admiral ARTHUR. Yes, sir. Thank you. I think that was a very good, comprehensive answer, and I echo many of those sentiments. I would like to add just a couple of other things.

I think there is a tremendous value to having an all-volunteer service. I have talked with many veterans whose sons have died in combat, and one of the things they tell me is they are very proud of their son, that he—and in some cases a she, but not for us in the Navy—volunteered to go there, wanted to serve his country, and that he felt that he died in an honorable way. I do not think that that same sentiment is echoed for people who are conscripted to service.

One of the great things, I think, about our medical system is the camaraderie that we have with other health care professionals who share the same core values that we have, the great training that we give, but the greatest benefit that I have seen is that we never ask any of our patients how sick they can afford to be. We give the right care every single time. I think it is those things that keep people in the Navy, the Army, the Air Force medical systems because it is a job satisfaction not only their professional lives, but they feel that they are not just not successful, but significant in their contributions to their Nation. So I think the voluntary service is of great value.

Like the Army, we have difficulty in retaining those specialties who tend to have more deployments than others: the surgeons, the nurse anesthetists, the perioperative nurses, the combat medic equivalents in the Navy. But I think so far we are doing pretty well because people want to serve, and that is the volunteer aspect.

I have gone over there in December and January and talked to thousands of our medical department folks out there. They all would like to be home, but when their time and their duty is done. They know what they are doing over there is important.

Thank you.

Senator STEVENS. General Taylor.



General TAYLOR. Sir, just a couple of points. From the Active duty side, we continue to be challenged in the Dental Corps and the Nurse Corps with sustaining the right number of folks. I believe we have most of the tools to shape the force properly and build the force properly. It is just putting these things in effect takes time. A lot of the cycling, particularly for the nurses, is in relation to the outside communities' shortage of nurses and the capability of nurses. So we are in competition for many of these and it makes it more difficult. I am sure that General Brannon will come in behind and talk about some of the efforts in pay, ROTC, and other activities that we are trying to do to recruit and retain nurses.

I have to say one of the things that we have worked real hard on is placing our medics in an air expeditionary force structure so that they go out 120 days every 20 months. It is a system that can sustain itself. It is very enthralling to talk to medics, either in Iraq or Afghanistan or upon return, and how excited they are being able to participate in the activities and supporting the armed forces forward. This experience of deploying forward for most of our medics is a very important part of their life and their contribution to the service.

From the Medical Corps perspective, we tend to be challenged in certain specialty types. We are working to adjust that specialty mix, but by and large, you know that most of the Medical Corps we get are through two very wonderful programs. The Uniformed Services University and our Health Services Professional Scholarship program continue to provide outstanding physicians for each of us in the services.

From the Reserve component perspective, the Air National Guard is taking up the challenge of homeland security. Their greatest challenge, as they reform the Air National Guard to create military medical capabilities aligned along the FEMA regions, is getting the equipment, getting the training, and then getting the staff aboard to move into creating the capabilities to provide rapid medical response to a homeland security event. So I am working very hard with the Guard to try and help them restructure their medics in a way that provides not only capability for the Federal forces, as we deploy out, but provide a wonderful asset for the States and the Governors to use in case of a homeland security strike.

Senator STEVENS. We were disturbed when we heard that the Uniformed Services University of Health Sciences (USUHS) might be closed and equally disturbed when we heard that Walter Reed might be closed. We are monitoring both of those rumors.

But one thing that disturbs me is the feeling that there just are not enough physicians, doctors, professionals who are willing to volunteer and stay in the service. Many of those in your profession have received substantial Federal assistance in their education. We used to have a requirement if the person got such assistance, a certain amount of time had to be dedicated to service in the military. That has been eliminated from our laws. What would you think about reinstating it? Is it still there? I do not think it is still there. Well, I will ask the staff.

My information from home is we used to have a provision that said that they had to spend some time in places where there were

not enough physicians in the civilian community, and that was one of the commitments that they made if they got their financial assistance during their medical education. But I do not think we still have the requirement of military service for those who have the assistance.

General TAYLOR. Sir, as far as I understand it, in the Health Professions Scholarship program (HPSP), you owe 1 year for every year of training, and for those who go to the Uniformed Services University, they owe 7 years after their training.

Senator STEVENS. But is that military service?

General TAYLOR. Military service.

Senator STEVENS. All right. We will get a report on that. Thank you.

Senator Inouye.

Senator INOUE. If I may follow up on that, is it not true that of the 3,600 graduates of USUHS, the retention rate is extraordinary? For example, the medium length of unobligated retention for physician specialists, not including USUHS grads, I believe is 2.9 years, but for USUHS grads, the unobligated service retention is about 9 years. Is that not correct?

General TAYLOR. Senator, I do not think we know the specific numbers there. It is true it is universally understood that those who attend USUHS, because of their long commitment, stay longer in the service. You must complete USUHS, complete your medical residency training, and then the clock starts ticking on your 7 years of service. Certainly that is longer than the HPSP where they only owe 4 years. So it is true that they will stay longer.

Senator INOUE. I am told that beyond the unobligated, there are 9 years for USUHS grads, medium rate.

And further, we have been advised that if we compare USUHS to the four major physician accession centers, USUHS is cost effective. It sounds astounding, but I suppose it is correct.

Does Walter Reed still maintain 40 medical specialty programs?

General KILEY. To the best of my knowledge, yes, Senator, they do.

Senator INOUE. Because I have been told that that is one of the major attractions for physicians in the military.

#### TRAINING PROGRAMS

General KILEY. Yes, sir. What Walter Reed really is is the linchpin for Army medicine. There are very robust training programs across the entire spectrum, many of which are combined with training programs at the National Naval Medical Center. Many students in medical school that get an opportunity to rotate at Walter Reed really get excited about being in Army medicine and having an opportunity to serve at Walter Reed. Some of our best, not all, physicians in the military will actively seek to be assigned at Walter Reed because of its prestige, not only its location in Washington, DC, but the prestige of the research that goes on, the robustness and the size of the training programs that allow them to do research to train the next generation of physicians and certainly nurse and also enlisted personnel, all of whom train at Walter Reed.

It is a very big, complex organization. It delivers very sophisticated tertiary level, university, academic level health care. And as you know, it is also our major receiving facility in the continental United States for combat casualties that are coming back where we apply those skills.

So it has a recruiting and retention capability. It is recognized worldwide as are the prestigious Navy and Air Force facilities. So it is not without significance as it relates to not only that, but longevity, the same discussion you just had with continuation rates of physicians. Certainly many of the USUHS grads get an opportunity to rotate as medical students, like my daughter, and see that as a career potential for them. So there are significant second and third order effects to this facility, yes, sir.

Senator INOUE. Admiral Arthur, during the ancient war, the one that the chairman and I were involved in—there was much talk about what we called section 8, mental cases. In this war we see pictures of amputees and blinded veterans and such, but very seldom hear about so-called section 8. What is their status? Do we have a lot?

#### COMBAT STRESS

Admiral ARTHUR. Section 8 is the psychiatric. Okay. I think that is an Army term.

We are, I think, just seeing the results of combat stress in our veterans. I think we have not truly had a major combat that our Nation's armed forces have been associated with since Vietnam. I think Desert Storm, Bosnia, Grenada, Panama—we have been in conflict, but not in such a sustained way.

Having been in combat, I feel that 100 percent of the people who experience combat are in some way affected, some a little, some a lot more. I think we as the services need to be very sensitive to picking up the combat stress not because the children are affected or the spouses are affected or the jobs are affected, but because we are sensitive enough in our post-deployment screening tools to see the effect and to treat it at its lowest level, by that I mean in garrison rather than sending someone to a hospital, if they go to a hospital to do the treatment as an outpatient rather than an inpatient and to return people to function.

I think one of the best things that all three services have done is to enlist their retirees and other people in the communities so that we do not lose track of anyone who does not just return to garrison, but actually gets out of the service or goes back to Reserve duty and may not have the support that an Active duty member has. I think we are all very, very concerned about what I would call combat stress to ensure that we properly honor the services of the veterans and understand it.

As I said in my opening statement, I think this is in the purview of the military. We know what combat stress is about because we have been there and we understand it. I think the more we can do that keeps our veterans from having to go to civilian centers where they are not as well prepared the better we will be, and that includes our Veterans Administration hospitals as we partner with them to treat veterans.

Senator INOUE. Do you believe that we are adequately demonstrating this concern and sensitivity?

Admiral ARTHUR. I believe that we adequately have attention being drawn to it. I think renewed collaboration that DOD has with the Veterans Administration in treating combat stress is refreshing. We have a lot of programs and I am encouraged by the amount of effort and attention that we are bringing to bear on this, all three services, right now.

Senator INOUE. Thank you.

General Taylor, we have just received a report that the Air Force is short in a large array of medical and dental fields. For example, the Air Force is now short in dentistry, anesthesiology, gastroenterology, rheumatology, pulmonary, cardiology, oncology, hematology, internal medicine, and it goes on and on. Is that a correct picture?

General TAYLOR. Sir, we are short in certain areas. We are shorter in other areas than in some other ones. The way we have tried to adjust for that, of course, is to work on the pay and compensation for those specialties that are in the career field. We have been working actively with the recruiting services to recruit people, and then we have continued to work hard to mold new accessions into those specialty areas.

Some of the ways that we have adjusted to that is to try and ensure that we place our military specialists in those locations where they can best maintain their skills. Concentrating internists in hospitals and moving them from the smaller clinics and into the hospitals has been one way to adjust for that. That would allow those small clinics then to contract for internal medicine referrals locally rather than to put a military internist in a small clinic forward.

So most of these are trying to adjust to the correct size while we continue to press for new entries into the career field and that the pay and incentives remain intact. The other part of this is to try and ensure that people in those areas of expertise are practicing the full spectrum of their health care in our larger facilities.

Senator INOUE. Are you noting success in your programs?

General TAYLOR. Sir, I believe we are seeing success in that program. It is going to take time, as was mentioned by my colleagues here, to see how those incentives work. We appreciate what Congress has given us in terms of pay and retention and scholarship programs to recruit and retain these people, and we believe we have the adequate tools to do the work.

Senator INOUE. Well, as one Member of the Congress, I would like to thank all of you for your service. Thank you very much.

Thank you, Mr. Chairman.

Senator STEVENS. Senator.

Senator MIKULSKI. Thank you very much, Mr. Chairman, and to our Surgeons General.

First of all, as the Senator from Maryland, we are very familiar with military medicine in our State and so honored to have Naval Bethesda in our State. Walter Reed, though next door, we view as part of—we do not want to say part of our State, but certainly close to that. The hospital ship *Comfort* is based in Baltimore, and of course, we have USUHS, the uniformed services medical school, and up Route 270, of course, is Fort Detrick, though not literally

under your command, certainly is coming up with the research that is so important in what you are doing. So we feel very strong about it.

We too are really proud of what you are doing in battlefield medicine, acute care, and also the primary care that you provide to families. So we are on your side, and even my own primary care physician gave me an article from the Journal of American Medical Association (JAMA), the American medical journal, talking about the stunning results in what you have been able to do in battlefield medicine. It is beyond all expectation and all hope. I know gratitude will come to you the rest of your life in this.

I am worried about the shortages that you are talking about with the physicians, and I too have been troubled about the rumored closing of both USUHS and Walter Reed.

In terms of USUHS, I would like to be able to ask you, General Kiley, a couple of questions. First of all, is it true, picking up on Senators Stevens and Inouye, that the USUHS graduate serves a longer time than someone who has come through a conventional medical school, and could you share with us how committed they stay? All medicine is 24/7, but military medicine is 36/7. You work a 36-hour day.

General KILEY. Senator, that is a great question. Thank you.

#### PROGRAMS FOR ASSESSING PHYSICIANS

I think as General Taylor referenced, there are two general programs for assessing physicians, and the Uniformed Services University has the students go through an Active duty status with pay allowances and privileges. In exchange for those 4 years as a medical student, the young doctors graduate and are commissioned as Medical Corps captains. And then they have a 7-year obligation. The internship year right after medical school or, in many cases now, just the residency, internal medicine being 3, general surgery being 5 years, OB-GYN being 4 years, as an example—those 3, 4, or 5 years do not count in working off the obligation.

Senator MIKULSKI. So they do not count toward the 7 years.

General KILEY. That is correct. But they do count toward retirement. So these young physicians get through their training, and then they have a 7-year commitment. The intent, as I understand it, was pretty clear. I hear this routinely from my daughter, who is a USUHS graduate and finishing her second year of medicine residency, that they will get out to 10, 11, 12, 13 years before they reach that first unobligated decision point. Many of them—and I cannot give you a number, but clearly early on and so some of the more senior physicians—many had prior service. So they already had some commitment into retirement.

Senator MIKULSKI. But the bottom line is do they serve longer? Do you know that?

General KILEY. Our best estimate is yes, Senator, they seem to because the HPSPers—the larger group, by the way, at least for the Army—we get 60 doctors every year from the Uniformed Services. We get between 250 to—

Senator MIKULSKI. Well, I am not saying it is not a substitute for—

General KILEY. No, ma'am. I understand.

Senator MIKULSKI. So, in other words, USUHS—the Naval Academy does not do all of the officer corps for the Navy.

General KILEY. But if you are a West Point graduate with a 5-year obligation from West Point and you are a USUHS graduate with a 7-year obligation, those two are additive. So you are close to retirement before you can even decide—

Senator MIKULSKI. Yes, but you might not be coming from West Point.

General KILEY. That is correct.

Senator MIKULSKI. You might be coming a different route.

General KILEY. But the HPSPers—those only owe 4 years. They only owe 4 if they do a full 4-year scholarship.

Senator MIKULSKI. So the HPSP is the scholarship program. Is that correct?

General KILEY. Yes, ma'am.

Senator MIKULSKI. Now, in terms of the scholarship program, as I understand it, last year you had less than one applicant per slot, while USUHS had 10 initial applicants for every slot getting into USUHS. Are you aware of that?

General KILEY. I do not believe that the number was less than one applicant per slot. I believe it was about 1.1 to 1.2 applicants per slot, which is down from what it used to be.

Senator MIKULSKI. Yes, but that is not a lot.

General KILEY. No, ma'am, it is not.

Senator MIKULSKI. That is not a lot. And when you think that there are 10 people lining up to get into one slot in USUHS and we are talking about closing it, but it is barely one on one for the DOD HSP program, then I think we need to evaluate the scholarship program and find out why. But it is also a lesson saying let us not close USUHS.

Now, we understand the military doctors are a military doctor rather than a doctor who is currently in the military.

But as I understand it, first of all, you have got about 1,000 vacant physician positions, and not only are you competing with those at Hopkins or *Mercy*, like in our own State, Suburban, which you just referenced, Admiral, but you are also competing with the VA. The VA can pay more than the military. Am I correct?

General KILEY. I believe they can, yes, ma'am, at least in some specialties.

#### SCHOLARSHIP PROGRAM

Senator MIKULSKI. Well, see, I think these are the issues that we need to look at, and they would not be necessarily the scope of this hearing. But I think we do need to look at the scholarship program.

Senator STEVENS. Would you say that again, Senator?

Senator MIKULSKI. Well, today the Department of VA, as I understand it from my old work on the VA Subcommittee before we were reorganized, sir, can pay its civilian physicians more than DOD can under title 38. Therefore, not only are you competing with academic centers of excellence and community-based medicine, but you are also competing even against the VA in many of the same geographic areas where people are serving. Again, I come back to military medicine being a 36/7 calling.

So we do not want to short change the VA exactly because this seamless transition that you are developing and we are so enthusiastic about, but at the same time, if you are trying to get a surgeon, these specialties, but even in the primary care area, this would seem to be a challenge. And also VA is offering scholarships in nursing, scholarships in medicine and so on. So I think we need to look at this and how you are going to be competitive.

My advice is that we should not close USUHS because USUHS might bring not only medical skill but a military culture as compared to simply training a doctor to be in the military. I think the military doctor has an influence on the doctor in the military to grasp this very unique culture that you are the leaders of.

Do you see where I am? So I think we need to look at that.

I would also think that we should look at perhaps debt reduction. When someone has completed their medical school, their debt in many instances is over \$100,000. It is breathtaking for some. Then they think, I want a different life here and they are ready to think about this perhaps, but we should think about forgiving their debt as they entered the military. We already know then they have gotten through medical school. So it is not a crap shoot to know if they are going to make it. So I think we need some new thinking. Have you thought about this?

Senator STEVENS. That is a good idea. We ought to all think about that, Senator. That is a very good idea.

Senator MIKULSKI. Yes. And then when they come in, essentially we swap debt for duty.

General KILEY. Yes, ma'am.

General TAYLOR. Yes, ma'am. We do have certain tools that fit that category. The question is whether we are effectively using them or do we have the wide range of authority to fully execute those. We do have some debt relief tools. We do have some recruiting tools, and I think it is a very good question as to whether we are effectively using them or we are limited in size and scope because of finances or congressional caps. I think it is worthy for us to look at it.

General KILEY. I think you hit on it, \$100,000 in debt. If you are coming out of Georgetown or George Washington (GW), you may be closer to \$200,000 in debt based on the estimates of the cost. These young physicians then look at an Army salary with this debt on them, and it is very hard. Every year we have a couple physicians that come on Active duty, having incurred an obligation in ROTC in undergraduate, who have those kind of debts. They can sometimes struggle.

We do have some programs that recognize some of that debt reduction, but the programs are not nearly robust enough to address some of the issues you have had.

The second piece about the VA receiving more. One of the things the VA physicians, as I understand it, have as part of their retirement package is that these bonuses that they are given as physicians in the VA are all calculated into their retirement pay. They are not calculated into the military retirement pay.

Senator MIKULSKI. Well, I think we need to then look at how the VA is doing it and perhaps some lessons learned.

But the point of debt forgiveness is that perhaps when someone has completed their internship, they have got all this debt, this could be another recruitment time, or even when they have completed their residency. Some young people do not now want the hassle, the malpractice issues and the health maintenance organization (HMO), the insurance stuff, and the idea of being in the military would be very attractive to them.

I know my time is up, but I am very keen on this recruitment and retention.

Senator STEVENS. I want to ask the three witnesses here if they will confer and give us a suggestion on how to flesh out the Mikulski plan. We have several provisions in Federal law that it is really payment rather than forgiveness because those loans are not made by the Federal Government primarily. I think they are mostly reinsured by the Federal Government. But I do think that you ought to give us a plan that would allow the services to entice young doctors and professionals to come into the services with an addition to their salary to repay those loans.

#### MEDICAL PROFESSIONALS LOAN REPAYMENT

We do that here in the Senate to a certain extent. I do not know if you know that. It is not very much. We give the authority to a Senator to add to the salary an incentive payment for retention of employees who do have these debts. I have seen them come to my office with more than \$100,000 and the lawyers coming in with almost \$200,000.

So I think this is probably one of the things that is a deterrent to enter Government service, and particularly military medical service. You ought to give us a plan. We will flesh it out and see if we cannot get the money for it this year.

Senator MIKULSKI. Very good.

Senator STEVENS. We will call it the Mikulski plan.

Senator MIKULSKI. Okay.

Senator STEVENS. Well, Sonny Montgomery had his plan. You have got yours.

Senator MIKULSKI. Sounds good to me.

[The information follows:]

#### MEDICAL PROFESSIONALS LOAN REPAYMENT

The Health Professions Loan Repayment Program (HPLRP) has been a very important accession and retention tool to the Air Force Medical Service in certain areas. During the four year history of the current program, it has helped sustain the Nurse Corps Accession program, accounting for nearly half of the Nurse Corps accessions. It has also helped the Air Force Dental Corps to slightly improve the retention of general dentists (non-residency trained). Although HPLRP has been successful in some of our accession and retention endeavors, there is a low rate of HPLRP takers among physicians and residency-trained dentists.

Physicians, dentists, and certain Biomedical Sciences Corps specialists tend to have larger debt burdens than other health professionals and, due to salary differences, have a greater potential for quickly paying off these loans working in the civilian sector versus the military. Physician and dental officer average debt load is \$100,000-\$120,000 with some even approaching \$350,000. Health professionals have cited high student debt load as a major factor in their decision to separate from the Air Force.

A few recommendations to improve the effectiveness of the health professions loan repayment program are: (1) make HPLRP tax free, perhaps mirroring the Indian Health Service Loan Repayment Program; (2) allow HPLRP service obligation to run concurrent with any other service obligation; (3) receive HPLRP appropriation to



provide adequate quotas to improve the current program; and (4) establish an adequate accession bonus for physicians and dentists to augment the HPLRP as a more attractive accession tool. These improvements would help the military services attract and retain fully qualified health professionals especially in those extremely hard to recruit specialties.

Senator STEVENS. Thank you very much, gentlemen. We appreciate very much your service and your testimony here today. We look forward to hearing from you further about this idea, and I think it is a good one to pursue.

We will now turn to the Nurse Corps. Thank you again for coming.

We are now going to hear from the nursing corps. This subcommittee's view is that the nursing corps are vital to the success of our military medical system. We thank you for your leadership and look forward to your comments and telling us your challenges. From the Army, we will hear from Colonel Barbara Bruno, who is the Deputy Chief of the Army Nurse Corps. We welcome you here, Colonel. We will also hear from Admiral Nancy Lescavage, Director of the Navy Nurse Corps, and Major General Barbara Brannon, Assistant Surgeon General for Nursing Services for the Air Force.

Your patron saint is my friend here from Hawaii, so I will yield to him.

Senator INOUE. Welcome. Is this not Nurses Week?

General BRANNON. This is indeed.

Colonel BRUNO. It is.

Senator INOUE. I think it is most appropriate that you are here, and I want to congratulate all of you and thank you for the service you are rendering to our country. It is very essential. We would rather listen to you than listen to me. So, Mr. Chairman.

Senator STEVENS. Senator Mikulski, comments?

Senator MIKULSKI. I believe that the issues of recruitment and retention are actually severe in nursing because of the issues in the larger community. But again, for everybody who is at Naval Bethesda and we have seen you on the hospital ship *Comfort*, we are so appreciative of what you do, and want more of you.

Senator STEVENS. Colonel Bruno.

**STATEMENT OF COLONEL BARBARA J. BRUNO, AN, DEPUTY CHIEF, ARMY NURSE CORPS, UNITED STATES ARMY**

Colonel BRUNO. Thank you very much. Good morning, Chairman Stevens, Senator Inouye, and Senator Mikulski. Thank you for your unwavering support to provide the best nursing care possible to American soldiers, their families, and eligible beneficiaries.

I am Colonel Barbara Bruno, Deputy Chief of the Army Nurse Corps. It is a real honor and a privilege to speak to you this morning on behalf of Major General Gale Pollock, the Chief of the Army Nurse Corps. She is hosting an historic military medical conference in Hanoi, Vietnam today. She sends her regards and wishes she could be here.

I am going to highlight specific achievements and concerns that relate to the ability of the Army Nurse Corps to serve a Nation at war. As of March 2005, 765 nurses have deployed to 17 countries, in addition to Operation Enduring Freedom in Afghanistan and Iraqi Freedom.

Caring for critically injured soldiers can be incredibly stressful to the deployed staff and to the staff within our medical treatment facilities. Nursing research conducted at Walter Reed showed that nurses' feelings and emotions, while caring for returning injured soldiers, mirrored their deployed nursing counterparts. Yet they experience them in different and more long-lasting ways. Whereas deployed nurses have short and intense exposures to patients with severe and devastating trauma, nurses in our fixed facilities have prolonged and much more personal experience. They experienced high levels of empathy with the injured and their families. This empathy is common amongst all health care providers and is described as compassion fatigue. Soldiers involved in health care receive awareness training and educational material regarding compassion fatigue.

The shortage of nurses in the civilian sector does have a direct impact on the entire Federal nursing force. We continue to leverage available incentives and seek additional creative avenues to recruit nurses. To remain viable in a very tight labor market, we have to be competitive.

One extremely successful recruiting tool we have used in the Army is the Army Medical Department enlisted commissioning program. This is a 2-year education completion program for enlisted soldiers who have acquired the appropriate prerequisites. The Reserve component has expressed interest in a similar program.

Another successful initiative directed at civilian Federal nurses is the direct hire authority. With this program, the time delay between finding a candidate and acceptance of a job offer has been significantly reduced. We are optimistic that the National Security Personnel System will alleviate the obstacles to hiring civilian nurses.

While recruiting is an obvious challenge, retention is of greater concern and a much less conspicuous one in nature. As the incentive gap with the civilian sector widens, it will be increasingly difficult to retain qualified nurses in military service, and for the Army this loss is twofold. We lose a superb soldier and a highly trained, experienced nurse.

Successful retention of nurses is a combination of financial compensation, deployment equitability, and military benefit preservation. With the support of General Kiley, as he mentioned earlier, we have been very successful in the incentive specialty pay program for nurse anesthetists. The preliminary numbers reveal that 72 percent of the eligible nurse anesthetists have signed a multiyear contract since the increase in incentive pay. This information suggests a positive correlation between the increased pay and retention and provides us with good research for future retention strategies of other specialties.

Our commitment to nursing research remains strong. Walter Reed Army Medical Center has partnered with Mount Aloysius College in Pennsylvania as part of a congressionally funded nursing telehealth applications initiative. This relationship provides a quality learning experience to nursing students in a rural environment. While students and faculty remained at Mount Aloysius, two Army nurses took care of various patients in the medical intensive care unit (ICU) at Walter Reed, bringing that clinical setting to

rural Pennsylvania. Our commitment to addressing the nursing education insufficiencies exemplifies Army Nurse Corps leadership, innovation, and new approaches to solve problems.

Nursing research is invaluable to excellent, evidence-based nursing practice. We thank you for your dedicated funding and continued support of the TriService nursing research program.

#### PREPARED STATEMENT

The Army Nurse Corps continues to move forward with initiatives to improve the best nursing organization in the world. Our research is changing nursing practice globally, and Army nurses are highly valued throughout the world. With the continued support of Congress, Army Nurse Corps compassion and leadership will ensure that we are able to take care of our military men and women and that they receive the finest health care anytime anywhere.

I thank you for this opportunity to speak to you today.

[The statement follows:]

#### PREPARED STATEMENT OF COLONEL BARBARA J. BRUNO, AN

Mr. Chairman and distinguished members of the committee, thank you for your unwavering support to provide the best nursing care possible to American Soldiers, their families and eligible beneficiaries. In today's unprecedented environment of global, joint and collaborative military medical operations, we continue to see success in the Global War on Terrorism, and have made numerous improvements in nursing care delivery at home, abroad and on the battlefield.

I am Colonel Barbara Bruno, Deputy Chief, Army Nurse Corps (ANC). It is an honor and privilege to speak to you today on behalf of Major General Gale Pollock, the 22nd Chief of the Army Nurse Corps. MG Pollock is hosting an historic military medical conference in Hanoi, Vietnam.

Military forces engage in security cooperation activities to establish important military interactions, building trust and confidence between the United States and its multinational partners. The visible and purposeful presence of U.S. Military capabilities is an integral part of an active global strategy to ensure security and stability. The Asia Pacific Military Medicine Conference (APMMC) is one of the critical tools used to accomplish this.

The APMMC is the premier medical conference in the Pacific Command (PACOM) area of responsibility. This conference provides a forum for U.S. Military health care providers and leaders to collaborate with Allied and friendly countries in the Asia-Pacific region. Topics of military medical significance such as interoperability, medical readiness, illnesses, battle injuries, medical technological advancements, force health protection, and disaster/consequence management are the primary foci of the APMMC.

As the U.S. Army, Pacific Surgeon, MG Pollock will conduct bilateral discussions with senior delegates from over thirty countries attending the APMMC. These bilateral discussions provide a forum to plan future medical events with regional partners, and enhance influence and access to these nations in order to combat terrorism, transform alliances, and build coalitions for the future. This year's APMMC is in Hanoi, Vietnam. This is particularly significant as it is the first time the U.S. Military has ever co-hosted a conference of this magnitude with the country of Vietnam.

The ANC is actively engaged in strategic planning to allow us to achieve the greatest benefit, both human and monetary. During this congressional hearing I will take the opportunity to highlight specific achievements and concerns that relate to the ability of the ANC to serve a Nation at war.

Army Nurses possess the expert clinical skills, compassion, and leadership acumen requisite to execute the most challenging missions in austere environments. As of March 2005, 419 Active Component (AC) and 151 Reserve Component (RC) nurses were currently deployed to 17 different countries including Operation Enduring Freedom/Operation Iraqi Freedom (OEF/OIF). An additional 95 Army Nurses have supported other medical training missions as subject matter experts, trainers, or medical augmentees. Since our last testimony, our deployments total over 74,045 person-days.

The 31st Combat Support Hospital (CSH) from Ft. Bliss, TX and the 67th CSH from Wuerzburg, Germany transitioned at the end of the 2004 calendar year with the 86th CSH from Ft. Campbell, KY and the 228th CSH (a combined AC/RC unit) from San Antonio, TX. The 115th Field Hospital from Ft. Polk, LA, is also in Iraq as medical support for Abu Ghraib Prison. The RC continues to take the lead in the medical support mission in Afghanistan with the 325th Field Hospital from Los Angeles, CA being replaced by the 249th Field Hospital from Independence, MO. In addition to the CSHs, 45 nurses deployed on eight Forward Surgical Teams (FST) in support of OEF/OIF and two RC CSHs deployed to Germany as backfill.

Army Nurses are serving critical roles in direct support of the War on Terrorism at all ranks and skill levels. At the company grade level, nurses are instrumental in the leadership and direct supervisory training that combat medics receive during their Advanced Individual Training at Fort Sam Houston, Texas. This training provides combat medics with the critical knowledge they need to care for battlefield casualties. Often, the diverse clinical experience of the nurse is the only conduit between training and the trauma of war for these young medics. In addition, 44 Army Nurses are embedded with Divisions and Brigade Combat Teams providing direct nursing care to Soldiers in the field while also providing advanced training to combat medics prior to and during deployment.

The value of the Advanced Practice Nurse (APN) has never been as evident as it is in today's Army. Their expanded roles in the health care delivery system make them a highly prized commodity. APNs in varying specialties utilize their expertise to ensure patients transition smoothly from point of entry through the healthcare system based on each patient's individual needs.

The positive impact Army APNs are having on patient outcomes has created a tremendous demand for their services in various healthcare settings. Trauma Registry Coordinators, Nurse Practitioners, Nurse Anesthetists, Psychiatric Clinical Nurse Specialists, and senior-level Case Managers are just a few of the roles in which these highly educated nurses are serving.

In late 2004, six Army APNs deployed to Iraq to serve as Trauma Registry Coordinators. These Army Nurses have been an integral component of the Army Medical Department's (AMEDD) Theater Trauma System. This demonstration project adopted the American College of Surgeons Committee on Trauma's model for civilian trauma care into the current theater of operation. The Theater Trauma System initiative has multiple components: pre-hospital care coordination, utilization of clinical practice guidelines for trauma management and patient movement, trauma research and integration of clinical information systems for care delivery, and command and control. The overarching goal has been to ensure "the right patient, to the right provider, at the right location and right time."

A cornerstone of the Theater Trauma System is the Joint Theater Trauma Registry (JTTR). The JTTR application is used to capture data from non-integrated clinical and administrative systems within the AMEDD, our sister Services and the Department of Defense. The Trauma Registry Coordinators ensure that critical clinical data is collected in theater and incorporated into the JTTR to provide a comprehensive picture of trauma patients from point of injury through rehabilitation. To date, the JTTR contains more than 7,000 records of battle and non-battle injuries of United States, Allied and enemy combatants. Our support of this initiative remains steadfast, for as the Theater Trauma System matures, JTTR data will be used to improve the overall quality of care provided to our injured Soldiers.

An unprecedented move for Family Nurse Practitioners (FNP)—substituting for Physician Assistants at Echelon II medical companies—begins during the next rotation of OIF. These FNPs will provide primary care in field environments and initiate treatment for wounded soldiers.

Our RC Army Nurses continue to demonstrate excellence in health care management. In addition to deploying nurses to theater, numerous others are serving in a backfill capacity in our Medical Treatment Facilities (MTF). Most noteworthy are the APNs serving as senior-level Case Managers at the Regional Medical Commands. These nurses are credited with the development of medical holdover case management and a patient tracking tool. They supervise 158 Army Reserve and National Guard nurses serving as Case Managers in MTFs and Community Based Healthcare Organizations located close to Soldiers' homes.

These RC nurses functioning as Case Managers assist their physician colleagues to aggressively manage highly complex wartime patients to achieve positive outcomes for the 21,500 Soldiers who have required medical care following mobilization. Of the 16,453 Soldiers processed since the establishment of the medical holdover management program, 10,868 Soldiers have returned to their units. This success, a direct result of compassionate care and attention to detail, clearly demonstrates the need for nurses in the ambulatory healthcare setting.

Combat is demanding and taxing. Estimates are that between 3 percent and 4 percent of the general adult population in the United States suffers from Post Traumatic Stress Disorder (PTSD) (Narrow, Rae, Robins & Regier, 2002). Among Gulf War veterans, estimates are that between 2 percent and 10 percent suffer from PTSD (Iowa Persian Gulf Study Group, 1997; Kang, Natelson, Mahan, Lee & Murphy, 2003). In a systematic review of 20 studies that compared the prevalence of psychiatric disorders in Gulf War veterans to a comparison group of veterans previously deployed for other conflicts not including current operations, Gulf War veterans were three times more likely to develop PTSD (Stimpson, Thomas, Weightman, Dunstan & Lewis, 2003). More recently, in a cross-sectional study of 3,671 Soldiers and Marines surveyed 3 to 4 months after returning from deployments to Afghanistan or Iraq, between 6 percent and 13 percent of the participants suffered from PTSD (Hoge et al., 2004). The prevalence of PTSD increased linearly with the number of firefights Soldiers experienced and being wounded.

The Department of Defense and the Department of Veterans Affairs are taking a proactive approach to monitoring and treating PTSD. One of the 26 clinical practice guidelines jointly developed by the Army, Air Force, Navy, and Veterans Affairs addresses the management of Post-Traumatic Stress. An Army nurse leads the clinical practice guideline effort at the Army Medical Command (MEDCOM) disseminating these evidence-based practice recommendations across the AMEDD.

Caring for critically injured soldiers can be incredibly stressful for the deployed staff and the staff within our fixed MTFs. Nursing research conducted at Walter Reed Army Medical Center showed that nurses' feelings and emotions while caring for returning injured soldiers mirrored their deployed nursing counterparts, yet they experienced them in different and more long-lasting ways. Whereas deployed nurses have short and intense exposures to patients with severe and devastating trauma, nurses in our fixed facilities have prolonged and much more personal exposure. They experienced high levels of empathy with the injured and their families. This empathy is common among all health care providers and is described as "compassion fatigue." Soldiers involved in healthcare receive awareness training and educational material regarding compassion fatigue.

The shortage of nurses in the civilian sector continues to have a direct impact on the federal nursing force, both military and government service requirements. The AC accession mission for Army Nurses has not been met since 1998 while the RC has not met mission since 2002. At the end of fiscal year 2004, the AC ANC was 203 officers below its budgeted end strength of 3,415 and missed its goal of accessing 385 new officers by 48. The RC ANC also missed its accession goal of 507 new officers by 141.

A recent study commissioned by the United States Army Accession Command, determined that specific offers and messages can improve the accession rate and help to relieve our shortages. The sample population included registered nurses, graduate nurses, and nursing students. Reducing minimum service obligations, adjusting deployment length, ensuring assignment preferences, and increasing financial incentives have the most potential impact on nurse accession. As a result of these findings, the Chiefs of Nursing for U.S. Army Cadet Command (USACC) and U.S. Army Recruiting Command (USAREC) have developed several initiatives aimed at increasing overall nurse recruitment.

The first initiative from USACC is the Centralized Nurse Scholarship program. It was implemented to focus additional Reserve Officer Training Corps (ROTC) battalions on the nurse mission. They accomplished the initiative by increasing the number of schools actively recruiting nursing cadets from 47 to approximately 200 and using the nurse mission as a quantifier of success. They also consolidated Nursing Scholarships at USACC Headquarters, centralizing funds, and providing responsive access to scholarship resources wherever qualified nurse applicants are located. The new program also allows students to choose how their scholarship dollars are used. This benefits those students who may have received additional academic scholarships that are specified for tuition only. In addition, the tuition cap and book stipend were increased by \$3,000 and \$300 per year respectively.

The second initiative from USACC is an expanded ROTC Nurse Educator Tour and Nurse Summer Training Program (NSTP). Showcasing ROTC's Leadership Development and Assessment Course (LDAC) and NSTP are significant recruiting tools available to Army Nursing. During the summer of 2004, 150 nurse educators were invited to attend the LDAC at Ft. Lewis, WA, in an effort to display the versatility of our nursing cadets in both the field training and clinical environments. The nurse educators who participated in this program witnessed nursing students during leadership training at the LDAC and then received a tour of Madigan Army Medical Center where they observed nursing students in the clinical setting during NSTP. Nurse educators participating in the tour left with a new-found dedication

to Army ROTC and a better appreciation for the ANC as a whole. As a result of their positive experiences, many of these educators now require students returning from LDAC and NSTP to provide a presentation about the experience to their classmates, inviting more queries about the ANC as a career option. Most schools are now encouraging qualified students to consider Army ROTC and many are giving academic credit for NSTP completion. The success of this program has already made a significant impact in nursing student recruitment at these universities.

In light of this success, USACC has experienced a greatly improved collegial relationship with all universities in attendance. In an effort to improve recruiting efforts while promoting the positive image of Army Nursing, focus has shifted this year to universities who have been less than supportive in the recent past. One hundred representatives from these universities have been invited to attend this year's Nurse Educator Tour. This type of networking and partnering will increase a positive view of Army Nursing in the civilian community.

While USAREC recruiting initiatives are similar in nature to those of USACC, their targeted population is larger and more diverse. They are solely responsible for recruitment of RC nurses and all other nurses and nursing students not eligible for ROTC.

The Health Professional Loan Repayment Program (HPLRP) was instituted in fiscal year 2003 and targeted new accessions to provide nurses with an educational loan repayment benefit up to \$29,000. Prior to HPLRP implementation, USAREC was limited to a sign-on bonus as their only financial incentive tool. To date, 345 AC nurses have benefited from this program.

The Army Nurse Candidate Program (ANCP) targets nursing students prior to graduation who are not eligible for ROTC but are still fully qualified as a direct accession nurse. It provides a \$1,000 monthly stipend and a \$10,000 bonus paid in two increments. The ANCP provides USAREC the ability to recruit nursing students as early as their sophomore year. This program will give us the leverage to offer accession incentives to students much earlier in their education program which is essential when competing with the civilian market.

The Army Enlisted Commissioning Program (AECPP), used by AC enlisted Soldiers, is an extremely successful recruiting tool. The program provides a 2-year education completion program for enlisted Soldiers who have acquired the appropriate prerequisites. Currently 75 Soldiers are funded annually to obtain their Bachelor of Science Degree in Nursing.

The last AC recruiting initiative we want to highlight is the accession bonus. Money is programmed through fiscal year 2008 to implement this plan. The current accession bonus is \$15,000. The proposed increase is \$5,000 per year through fiscal year 2008. With these targeted increases, USAREC believes we will become comparable to the standard sign on bonus of our civilian competition.

Reserve Component accessions are a concern. Although their overall strength remains good, accession percentages have declined in the past 2 years.

While recruiting is an obvious challenge, retention is of greater concern, and much less conspicuous in nature. Unlike recruitment, the inability to retain a mid-level officer comes at a much higher expense. For the military, the loss is two-fold—a superb Soldier and a highly trained and experienced nurse.

Nurses have continually answered the call to service and it is critical that we develop appropriate retention strategies to ensure an adequate force structure exists to support our fighting forces. Their successful retention is a combination of financial compensation, deployment equitability, and military benefit preservation.

The critically low density area of concentration that is most severely affected by attrition is the Certified Registered Nurse Anesthetist (CRNA). CRNA actual end strength has fallen to 70 percent. With the support of Lieutenant General Kiley, The Army Surgeon General, Health Affairs and the Army, the ANC was successful in implementing a major restructuring of the Incentive Specialty Pay (ISP) program for CRNAs that addressed two issues important to this population. First, it provided the first increase in ISP in nearly 10 years to officers fulfilling their initial Active Duty Service Obligation (ADSO). This change was central to our retention strategy as disparity in pay for this population was identified as a major source of dissatisfaction. Additionally, the revised ISP structure provided the option to receive significantly higher annual ISP payments in exchange for incrementally longer service obligations, one to 4 years, after completing their initial ADSO.

Preliminary numbers reveal that of the 116 CRNAs eligible to sign for multi-year contracts, 84 (72 percent) have done so. The information suggests a positive correlation and retention of other nursing specialties may require ISP programs. Our next specialty concerns are the operating room, intensive care unit (ICU), and emergency room (ER) nurses who are in high demand both in the Army and the civilian healthcare market.

Financial compensation is also a retention initiative for our government service employees. Several civilian personnel initiatives are focused on alleviating government nursing shortages. Nursing has benefited from Direct Hire Authority (DHA). The time delay between finding a candidate and acceptance of a job offer was reduced from over 100 days to an average of 19 days under DHA.

Madigan Army Medical Center is participating in the first iteration of the National Security Personnel System (NSPS). This system recognizes the need to modernize the personnel system for the Department of Defense. The NSPS must significantly improve the personnel system for healthcare occupations.

One initiative that demonstrates promise is the Army Civilian Training Education Development System (ACTEDS). This program is an Army Requirements-based system that ensures development of civilians through a blending of progressive and sequential work assignments, formal training, and self-development for individuals as they progress from entry level to key positions. ACTEDS provides an orderly, systematic approach to technical, professional, and leadership training and development similar to the military system. It provides civilian employees base documents specific for career development within their chosen profession. Several ACTEDS plans are now available to government civilian nurses.

Another retention strategy currently implemented focuses on intrinsic rewards. The role of the Nursing Consultants to the Surgeon General is expanding to include input into the personnel deployment system and involvement with the officer distribution process for all critical wartime specialties. This strategy coupled with implemented policies to ensure equitable utilization of our deployment pool will assist us in the retention of highly educated professional nurses. Limiting the unknown for nurses by providing adequate notification of impending deployment and providing a predictable period of family separation should improve retention.

Walter Reed Army Medical Center has partnered with Mount Aloysius College in Cresson, Pennsylvania as part of a phased 4-year Nursing Telehealth Applications Initiative. This relationship, which provides a quality learning experience to improve the academic preparation of nurses, will assist to alleviate the critical nursing shortage.

The purpose of this study was to determine if the concept of a "Virtual Clinical Practicum TM" was a viable venue for nursing students to gain clinical skills in the absence of physically visiting clinical sites. Nursing students attending Mount Aloysius College, a rural community, have no opportunity to experience an ICU environment. Using Telehealth Technology, nursing students observed and learned about the nursing care of complicated adult medical patients and experienced an ICU clinical experience remotely. While students and faculty remained at Mount Aloysius, the nurse experts, two ANC Officers, took care of various patients in the Medical ICU at Walter Reed.

The professionalism and clinical expertise of the ANC officers was enthusiastically embraced by both the students and faculty. There are follow-on studies planned with this technology. Our commitment to address nursing education insufficiencies exemplifies ANC leadership, innovation, and new approaches to solve current problems.

Nursing research, like the Nursing Telehealth Applications Initiative, is invaluable to excellent, evidence-based nursing practice. We thank you for your dedicated funding and continued support of the TriService Nursing Research Program. Army nurses along with their Federal and civilian colleagues are dedicated to the dissemination of knowledge and improvement of professional nursing practice.

Army Nurses are conducting and participating in a number of studies specific to the care of deployed troops. Nurses at Walter Reed Army Medical Center are collaborating with their Air Force colleagues to assess aeromedical evacuation needs of war injured service members. At Brooke Army Medical Center, Army and Air Force Nurses are determining best methods to teach nurses how to care for chemical casualties and how to facilitate long term skills retention.

Nurse researchers at several locations are investigating deployment experiences of AMEDD personnel to seek information on improving quality of care for wounded service members and the emotional health of nursing personnel. Compassion fatigue of nurses who are working at our fixed facilities is another area of ongoing inquiry.

Nurses at Madigan Army Medical Center are enhancing Combat Medic skill sustainment using simulated battlefield conditions and SimMan, life-sized, computer-linked robots. This study will validate and standardize Combat Medic evaluation scenarios and template evaluator competencies.

Madigan Army Medical Center is also studying the impact of head nurse leadership on retention of junior ANC Officers. This research will provide information about essential leadership competencies and performance expectations from ANC Officers.

Nurses at Walter Reed Army Medical Center, Madigan Army Medical Center, and the Army Medical Department Center and School are coordinating the multi-site Military Nursing Outcomes Database (MilNOD) study being conducted at six Army, three Air Force, and four Navy facilities. This study is investigating the relationship of staffing to various nurse and patient outcomes. The study team continues to collaborate with the California Nursing Outcomes Coalition and the Veteran's Administration Outcomes Database Project (VANOD), building upon each other's collective experience in this unique work. The research team and collaborators, including the American Nurses' Association's National Database for Nursing Quality Improvement (NDNQI), created the National Nursing Quality Database Consortium and held an invitational methodology conference this past fall. The purpose of the conference was to learn from and work with researchers from other disciplines, who are at the cutting edge of new methods to analyze these types of data. The National Nursing Quality Database Consortium is hosting its first national conference this spring to share the knowledge gained from this collaboration with other colleagues in the nursing field.

Recognizing the benefit of nursing research departments staffed with Doctorally prepared nurse researchers conducting militarily relevant nursing research, I am pleased to announce we have opened a research department at Tripler Army Medical Center, the fourth in the Army Medical Department. These nurses are working with the Hawaii Nursing Taskforce and Queen's Medical Center on a grant submission to study the Effect of Magnet Environments on Patient and Nursing Outcomes. Other research initiatives include evidence-based practice projects to develop standards of practice for pressure ulcer prevention and preparing children for surgery. Additionally, working with Pearl Harbor Naval Base and Hickam Air Force Base clinic nurses, military nurse researchers at Tripler will utilize research findings to standardize and implement the most appropriate nursing interventions and document measurable nursing outcomes for specific inpatient and outpatient military beneficiaries.

Anesthesia students are very involved in research activities studying pain and warming techniques following surgery, and the effects of different anesthetic medication and adjunct therapies on patient outcomes. New technologies, such as piezoelectric technology, are also being studied. This technology allows a Soldier's vital signs to be continuously monitored while being transferred from the field to a definitive care setting.

In addition to our research activities, the ANC is dedicated to Soldier training and professional military education. Preparing our Soldiers to provide relevant, competent and professional care in any environment requires a robust training program. The ANC is constantly adapting our training programs to prepare Soldiers for their primary occupational specialty and go-to-war skills.

The Department of Nursing Science (DNS) at the Army Medical Department Center and School (AMEDDC&S) is using research and lessons learned from our deployed colleagues to improve training. Among the many initiatives over the last year, trauma and burn care was incorporated into the ANC Officer Basic Course. Combat stress education was added to the Army Nurse Captains Career Course. Ethical treatment of all patients is highlighted in all of our courses. In addition, components of Warrior Ethos Training and simulation experiences are being incorporated into the program to better prepare Soldiers for combat survival. The U.S. Army School of Aviation Medicine is piloting a Joint Enroute Care Course to prepare ICU and ER Nurses and improve care for patients evacuated from the battlefield via rotary wing aircraft.

The ANC extends our appreciation and recognizes the faculty leadership of the Uniformed Services University of the Health Sciences (USUHS) for their academic achievements and initiatives. The Graduate School of Nursing has been instrumental in providing highly trained, FNP's, CRNAs, and Doctorally prepared nurses. Graduates from these programs continue to enjoy a higher than average national pass rate on certification exams. We look forward to the May graduation of their first Peri-operative Clinical Nurse Specialist Course and the addition of a Military Contingency Medicine course.

The ANC continues to move forward with initiatives to improve the best nursing organization in the world. Our research is changing nursing practice globally and the officers of the ANC are highly valued throughout the world. With the continued support of Congress, the clinical excellence, compassion, and leadership strengths of Army Nurses will ensure our military men and women receive the world's finest healthcare anywhere, anytime.

Senator STEVENS. Admiral Lescavage.



**STATEMENT OF REAR ADMIRAL NANCY J. LESCAVAGE, NAVY NURSE  
CORPS, UNITED STATES NAVY**

Admiral LESCAVAGE. Good morning, Chairman Stevens, Senator Inouye, Senator Mikulski. I am Rear Admiral Nancy Lescavage, the 20th Director of the Navy Nurse Corps and Commander of the Naval Medical Education and Training Command in Bethesda, Maryland. It is indeed an honor and privilege to speak before you about our outstanding 5,000 Active and Reserve Navy nurses who continue to provide preeminent health care in all operational, humanitarian, and conventional settings. I want you to know our military and civilian nurses continue to proudly demonstrate professional excellence in promoting, protecting, and restoring the health of all entrusted to our care anytime and anywhere.

I would like to address five specific areas.

Number one, as our Surgeon General addressed, is readiness. In this area, Navy medicine's first priority, Navy nurses remarkably deliver superb medical care throughout the battlefield continuum. We have recorded over 125,000 mission days in operational and training exercises. Navy nurses have deployed this past year throughout the world to Kuwait, Iraq, Djibouti, Afghanistan, Bahrain, the Philippines, Thailand, and Guantanamo Bay. As you know, humanitarian efforts have been provided to tsunami and Haitian relief countries, as well as in our homeland in Pensacola after Hurricane Ivan.

Some examples of our readiness training are the following. Through the Navy trauma training course with LA County/University of Southern California Medical Center in Los Angeles, our Navy nurse instructors provide participants real-life exposure while integrating with the hospital's trauma staff to provide specialized care. Our nurses who are training there are part of a team of physicians and corpsmen who soon will go in harm's way. The newly established Navy EnRoute Care Corps has trained 22 Navy nurses at Camp Lejeune, North Carolina prior to their deployment to Iraq. This course includes a training pipeline involving the Air Force critical care air transport course, Navy trauma training course, and helicopter egress and water survival training. We also continue to contract with civilian trauma centers in close proximity to our medical treatment facilities for additional training and real-life experiences in trauma.

To optimize the readiness capability of our sailors and marines, we have placed nurse practitioners on board our aircraft carriers *Nimitz*, *Kennedy*, and *Enterprise*. In addition to rendering traditional episodic care on those carriers, our nurse practitioners promote wellness through post-deployment health assessments, tobacco cessation, and medical exams. A nurse practitioner with two other health care team members was recently deployed to the *Nimitz* to assist 6,000 of our sailors, who were just coming back from the Middle East, which resulted in the most efficient completion of the post-deployment health assessment evolution known to any vessel.

The second area I want to address is quality health services. In sync with Navy medicine's second priority of delivering quality and cost-effective health care, our Navy nurses span the continuum of care from promoting wellness to maintaining the patient's optimal

performance. Innovative examples include the mental health nurse outreach program with the Marine Corps School of Infantry at Camp Lejeune, the Partnership for In-Garrison Health and Readiness in Camp Pendleton, and the Nurse Managed Welcome Center at Pearl Harbor. Through a comprehensive referral network with the VA transition program, our nurse case managers are right in there assessing rehab specialists in collaboration with other specialties for our returning casualties to get the best care possible.

Other initiatives include the Nurse Run Medevac Transport Team at Bethesda and our specialized wound care clinics throughout our medical treatment facilities (MTF).

In an age of cost containment, our nurses are savvy in business planning and continuously evaluate best health care business practices. Nurses in the ambulatory care setting have implemented clinical business rules and performance goals to guide their daily practice. Disease management programs for asthma, diabetes, breast cancer, and cardiac care have improved the patient screening rates. They have recaptured network costs and they have maximized provider productivity and guaranteed exceptional continuity of care, which is what it is all about.

To enhance our quality of care, a sample of research topics includes clinical knowledge development from care of the wounded during Operation Iraqi Freedom, retention of recalled Nurse Corps Reservists, the effects of oxidative stress on pulmonary injury in our Navy divers, and factors associated with post partum fatigue in our Active duty women in the military. Several of these studies are funded by the TriService Nursing Research Program, which fosters military nursing excellence and promotes collaboration between not only military nurse researchers but with academia as well.

In support of One Navy Medicine concept, which Admiral Arthur spoke to, the integration of our Active, Reserve, and civilian nurses renders a more efficient, effective, and fully mission-ready nursing force. With the deployment of over 400 of our Active duty Navy nurses, along with the mobilization of our reserve Navy nurses to support our military treatment facilities, there has been neither a reduction of inpatient bed capacity nor an increase of disengagements to the network.

Together, as an example, we have also optimized joint training opportunities such as the chem-bio-radiological Defense training program between Navy Health Care New England, the Rhode Island National Guard and the marines at their local Reserve center. In addition, while our Active duty nurses attend the EnRoute Care course, our Reserve nurse officers participated in a pilot program of the Joint EnRoute Care course in the U.S. Army School of Aviation at Fort Rucker.

Never have opportunities been greater for all of our corps to be in executive positions. To meet the mission in all care environments through Navy medicine's fourth priority of shaping our force, it is critical we specifically shape Navy nursing with the right number of nurses with the right education and training in the right assignments at the right time. Our Active duty component is presently 96 percent manned, with 2,979 of our almost 3,100 positions filled. However, for the first time in over 10 years, we only attained

68 percent of our fiscal year 2004 Active duty recruitment goal, acquiring 63 out of 92 nurses.

Of note, though, we recently increased our nurse accession bonus to \$15,000 to be competitive with the other services. In addition, since the inception of the Nurse Candidate Program, this is the first year we were able to essentially double the accession bonus from \$5,000 to \$10,000 and their monthly stipends doubled as well from \$500 to \$1,000.

Regarding our Reserve recruiting goal, we may experience challenges in attaining specific specialties. Of particular note, the hospital corpsmen professional development option was initiated last year for Reserves as part of a 3-year pilot program. In this scenario, our Reservists are provided drill credits while attending a bachelor of science in nursing curriculum. This upward mobility program will serve as an accession source for junior Nurse Corps officers.

We also, in five of our military treatment facilities, are doing a pilot program where nurses are paid similar to VA nurses for on-call, holiday, weekend, and shift differential, and that is registered nurses (RNs) and in the future our licensed practical nurses (LPNs).

Promoting retention, we have several initiatives to retain our talented professional nursing force. Our graduate education scholarship program is our number one retention tool. We give about 90 of those scholarships every year. We carefully identify our graduate education programs and we are trying to take the specialties that are most used in wartime and train to them. We strongly support our nurses to attend USUHS.

Another significant first-time accomplishment. We were able to increase the certified registered nurse anesthetist incentive special pay to a multiyear contract this year. As part of a 1-year pilot program, we also have initiated special pays similar to the VA hospitals, as stated. After 1 year, we will evaluate these programs to see what that does for our retention and increasing salaries.

To maximize our joint medical capabilities, as our final priority, we collaborate and integrate with the other services, as well as with local, State, and Federal agencies. As nurses function in significant roles in homeland security within Navy medicine, we also participate in joint programs for chemical and biological defense, and in many of our treatment facilities, nurses are at the forefront for emergency preparedness.

In conclusion, the Navy Nurse Corps has been consistently dynamic in this ever-changing world. Our Navy nurses are using the latest technology, as you well know. We are conducting cutting-edge research and creating health policies across military medicine to advance our practice and improve all of our delivery systems.

It has been an honor to serve as the 20th Director of the Navy Nurse Corps. I am very proud of our distinguished corps and of our great history. The Nurse Corps this Friday on May 13 turns 97 years old. As I move on to a new assignment as Director of TRICARE Regional Office West in San Diego, I remain committed to the Navy Nurse Corps, our great Navy, and the Marine Corps team, and the Department of Defense. Like many of our Navy nurses and my professional colleagues who function in pivotal exec-

utive roles, I will continue to support our efforts to impact legislation, health care policy, and medical delivery systems. I hand the Navy Nurse Corps over to the very capable leadership of my successor, Rear Admiral (Select) Christine Bruzek-Kohler.

My greatest gift every day lies in working with the fine officers and civilians who support our military and in collaborating with my splendid colleagues, not only in the armed forces, but across academia and in our Federal and international governments. I want you to know we give our best always to the heroes, past and present, who keep this country free and our best to their families who support them so well.

Thank you. As always, we appreciate your great support.

Senator STEVENS. Thank you, Admiral.

Admiral LESCAVAGE. You are welcome, Senator.

[The statement follows:]Lescavage.txt

#### PREPARED STATEMENT OF REAR ADMIRAL NANCY J. LESCAVAGE

Good morning, Chairman Stevens, Senator Inouye and distinguished members of the Committee. I am Rear Admiral Nancy Lescavage, the 20th Director of the Navy Nurse Corps and Commander of the Naval Medical Education and Training Command. It is indeed an honor and privilege to speak before you about our outstanding 5,000 Active and Reserve Navy Nurses who continue to provide preeminent health care in all operational, humanitarian and conventional settings.

As key members of the Navy Medicine team, our military and civilian nurses proudly demonstrate operational readiness and personal excellence in promoting, protecting and restoring the health of all entrusted to our care anytime, anywhere. Aligned with our Surgeon General's five priorities, we continuously monitor our capabilities and embrace innovations to meet challenges head-on during these rapidly changing times. I will address each priority and illustrate how Navy Nursing meets our unique dual mission in the support and protection of our operational forces, while at the same time providing health care to family members and retirees.

#### READINESS

In the area of readiness, Navy Medicine's first priority, Navy Nurses continue to readily adapt and remarkably deliver superb medical care throughout the battlefield continuum in support of our operational and humanitarian mission via Surgical Companies, Surgical Teams, Shock Trauma Platoons, the Forward Resuscitative System, Fleet Hospitals, Expeditionary Medical Facilities, on Navy and Hospital Ships, and our Military Treatment Facilities at home and abroad. In addition to the services provided by our nurses assigned to operational billets, we have recorded more than 125,000 mission days in operational and training exercises. Operational platform and intensive trauma training formulate the framework for our nurses to capably provide immediate and emergent interventions and perform safely in any situation or austere environment.

In meeting our mission requirements, we continuously shape our Force Structure with emphasis on critical care, emergency, trauma, perioperative, medical-surgical, anesthesia and mental health nursing specialties. Navy Nurses have deployed this past year throughout the world to Kuwait, Iraq, Djibouti, Afghanistan, Bahrain, the Philippines, Thailand and Guantanamo Bay, Cuba. Humanitarian efforts have been provided to Tsunami and Haitian relief countries, as well as Pensacola after Hurricane Ivan. Together with our Canadian and British active and reserve colleagues, we have also been involved in several large combined joint task force exercises. To achieve all of this and more, our mobilized Reserve Nurses have spectacularly integrated with our military and civilian staff and have dedicated themselves to providing exceptional care to our service members and beneficiaries on the homefront.

To enhance our mission-ready capabilities, joint training opportunities have been maximized with our military and civilian medical communities which involves hands-on skills training, the use of innovative state-of-the-art equipment, and the proliferation of web-based programs for multi-system trauma casualties. Through the Navy Trauma Training Course (NTTC) with the LA County/University of Southern California Medical Center in Los Angeles, Navy Nurse instructors provide participants "real life" exposure while integrating with the hospital's trauma staff to provide specialized care. Our 46 nurses who rotated through the program this past

year have stated that they were better prepared to treat our trauma casualties. The newly established Navy EnRoute Care Course recently trained 22 Navy Nurses at Camp Lejeune, North Carolina, prior to deploying them to Iraq. This course includes a training pipeline involving the Air Force Critical Care Air Transport Course, Navy Trauma Training Course, and Helicopter Egress/Water Survival training. This highly specialized care is essential to our Forward Resuscitative Surgery System in order to transport and provide required medical care to patients who are at risk of sudden, life threatening changes prior to their transport to a higher echelon level of care. Through the Tri-service Combat Casualty Course, our nurses train in simulated combat conditions. For specific nursing specialty needs, the Services have supported each other. One fine example is the coordination of intensive care unit training with Landstuhl Medical Center for our nurses in Naples, Italy. We also continue to contract with civilian trauma centers in close proximity to our Military Treatment Facilities for didactic training and "hands-on" care. In addition, our Nurse Internship Programs at several of our teaching facilities continue to facilitate the transition of our new nurses into the Navy.

To optimize the readiness capability of our Sailors and Marines, we have placed nurse practitioners onboard the aircraft carriers NIMITZ, KENNEDY, and ENTERPRISE. In addition to rendering traditional episodic care, they promote wellness through post-deployment health assessments, tobacco cessation, and medical exams. Additionally, the nurse practitioners conduct medical training (e.g. Basic Life Support and Deckplate Health Promotion Courses). They also update medical supplies, equipment and practice guidelines while underway. A nurse practitioner with two other health care team members was deployed to the aircraft carrier NIMITZ to assist 6,000 sailors returning from Iraq, resulting in the most efficient completion of the Post Deployment Health Assessment Evolution of any vessel as hallmarked by the Commander of the Naval Air Force, United States Pacific Fleet.

#### QUALITY HEALTH SERVICES

In sync with Navy Medicine's second priority of delivering quality and cost-effective health care, our Navy Nurses span the continuum of care from promoting wellness to maintaining the optimal performance of the entire patient.

Innovative health services programs and joint partnerships across our military treatment facilities help us to maintain a readiness focus for our patient population. Examples include the Mental Health Nurse Outreach Program with the Marine Corps School of Infantry at Camp Lejeune; the Partnership for In-Garrison Health and Readiness in Camp Pendleton; and the Nurse-Managed Welcome Center at Pearl Harbor, Hawaii. Nurses in the Case Management Department at the National Naval Medical Center have programs supporting the continuum of care for our returning casualties. Through a comprehensive referral network with the Veteran Affairs' Transition Program, our nurses can access collaboratively-developed clinical practice models such as traumatic brain injury and post traumatic stress guidelines. They additionally utilize rehabilitation specialists and are now able to identify the best available health care while the patient is on convalescent leave or is between rehabilitation stays. There are many other military member initiatives, such as the Nurse Run Medevac Transport Team at Bethesda, Maryland that cares for returning casualties. We have specialized Wound Care Clinics throughout our military treatment facilities and we, now more than ever, utilize our mental health nurses.

The Nurse Call Center at Jacksonville, Florida is the benchmark for other military treatment facilities and provides 24/7 triage and advice coverage, emergency room follow-up calls, and a direct link to the patient's primary care manager or specialist. Disease Management Programs for asthma, diabetes, breast cancer, and cardiac care have improved screening rates; recaptured network costs; maximized provider productivity; and guarantee exceptional continuity of care at Patuxent River, San Diego, and Cherry Point. Other innovative programs include the Health Lifestyle Choice Program for children and teens at San Diego and the Post Partum Clinics in Bremerton, Pensacola, Guam, Twenty-Nine Palms, and Yokosuka. In concert with the Armed Forces Center for Child Protection, the Shaken Baby Syndrome Prevention Program is now being piloted at six of our hospitals with additional emphasis on parent training.

In an age of cost containment while promoting high quality of patient care, it is essential that nurses are trained in business planning and continuously evaluate best health care business practices. For example, one of our nurses developed a survey to evaluate disease (asthma and diabetes) and condition management measures as part of a Navy-wide "Disease and Condition Management Report Card" which is comprised of clinical and financial metrics. At Bethesda, nurses in the ambulatory care setting have implemented clinic business rules and performance goals to guide

daily practice. At Naval Hospital Jacksonville and the Naval Medical Center Portsmouth, nurses have collaboratively developed an electronic patient tracking system which integrates the Emergency Department with Ancillary Services. Through the use of information technology, patient status and movement within the facility are closely monitored; clinical data is more expeditiously recalled; and personnel resources can be adjusted for well-justified reasons.

Research priorities are focused on workforce retention, clinical practice, deployment experiences, outcomes management, and the gaining of specific competencies. A sample of research topics includes: clinical knowledge development from care of the wounded during Operation Iraqi Freedom; the perinatal depression screening program; retention of recalled Navy Nurse Corps Reservists; the effects of oxidative stress on pulmonary injury in Navy divers; retention criteria for military health system nurses; and factors associated with post partum fatigue in Active Duty military women. Several of these studies are funded by the TriService Nursing Research Program, which fosters military nursing excellence and promotes collaboration between not only military nurse researchers but with academia as well.

Our nursing research has been disseminated through countless professional forums worldwide, such as at distinguished conferences sponsored by the National Nursing Honor Society Sigma Theta Tau, the Association of Military Surgeons of the United States (AMSUS), TRICARE, Royal College of Nursing of the United Kingdom, and the Micronesian Medical Symposium. Numerous publications by Navy Nurses can be found in prestigious professional journals, such as the *Journal of Trauma*, *Critical Care Nurse*, *Journal of the American Association of Nurse Anesthetists*, *Military Medicine*, *Geriatric Nursing* and many more. In addition, many of our nurses have received esteemed awards at University Annual Research Day presentations, as well as at the Phyllis J. Verhonick Army Research Conference which acknowledged a joint service study called, "A TriService Integrated Approach to Evidence Based Practice."

#### ONE NAVY MEDICINE

In support of the One Navy Medicine concept as a third priority, the integration of active, reserve and civilian nurses renders a more effective, efficient and fully mission-ready nursing force both at home and abroad. With the deployment of over 400 Active Duty Navy Nurses along with the mobilization of Reserve Nurses to support our Military Treatment Facilities, there has been neither a reduction of inpatient bed capacity nor an increase of network disengagements.

Together, we have also optimized joint training opportunities, such as the Chemical, Biological and Radiological Defense (CTR-D) Program training between the New England Naval Health Care Ambulatory Clinics, the Rhode Island Air National Guard, and the Marines at their local Reserve Center. Expert instructors deliver both classroom and confidence chamber training, including exercises involving the use of gas masks and chemical suits. While our Active Duty Nurses attend the Navy EnRoute Care Course, our Reserve Nurse Corps Officers recently participated in a pilot program of the Joint Medical EnRoute Care Course at the U.S Army School of Aviation Medicine at Fort Rucker, Alabama. This program combines medical skills and rotary wing training to create a cadre of joint service, multidisciplinary team members to provide an advance level of care during transport.

#### SHAPING TOMORROW'S FORCE

To meet the mission in all care environments through Navy Medicine's fourth priority of shaping tomorrow's force, it is critical that we continuously focus on our human capital strategy. Our goal here is to specifically shape Navy Nursing with the right number of nurses with the right training in the right assignments at the right time, and become the premier employer of choice for active, reserve and civilian nurses. We accomplish this through several interdependent processes. With nurse executive leadership, we have identified specific nursing specialties for each deployable assignment to meet operational requirements. Personnel with the right clinical expertise are assigned to deployable platforms. When not deployed, these nurses serve in our Military Treatment Facilities to meet our peacetime mission. We carefully identify graduate education programs that best meet our specific requirements, such as our wartime specialties in critical care, emergency, trauma, perioperative, anesthesia, medical-surgical and mental health. Finally, while closely monitoring the national nursing shortage, we continue to pursue available authorities to recruit and retain our exceptionally talented nurses.

Our Active Duty component is presently 96 percent manned with 2,979 of our 3,094 positions filled. As a result, our recruitment efforts are focused on maintaining adequate staffing to continue to meet our mission, particularly in our critical war-

time specialties. Our pipeline scholarship programs help contain our annual recruiting goals. However, for the first time in over 10 years, we only attained 68 percent of our fiscal year 2004 Active Duty recruitment goal, acquiring 63 out of 92 nurses. We recently met with success in increasing our Nurse Accession Bonus to \$15,000; we continue to maintain our presence at national nursing conferences and tap Navy Nurses at all levels to market our career opportunities to their professional associations. Since the inception of the Nurse Candidate Program, this is the first year we have essentially doubled the Accession Bonus from \$5,000 to \$10,000 and the monthly stipend from \$500 to \$1,000.

Regarding our reserve recruiting goal, we may experience challenges in attaining our specific specialty in some areas. Of particular note, the Hospital Corpsman/Dental Technician Professional Development Option was initiated last year for the Reserves as part of a 3-year pilot program. Reservists are being provided drill credits while attending a Bachelor of Science in Nursing curriculum. This upward mobility program will serve as an accession source for junior Nurse Corps Officers.

Promoting retention, we have several initiatives to retain our talented professional nursing force. As mentioned earlier, our graduate education scholarship program is a primary motivator for recruitment and our number one retention tool. Within our education plan, we strongly support nurses who choose to attend the Graduate School of Nursing at the Uniformed Services University of Health Sciences. At present we have sixteen students in the Nurse Anesthesia, Family Nurse Practitioner, Perioperative Clinical Nurse Specialist, and Doctoral Programs with an additional eleven students slated to begin in the coming academic year. As we continue to collaborate and identify our mission requirements, the faculty leadership has refined their curricula to meet our needs. Two classic examples include the development of the Military Contingency Medicine/Bushmaster Program to optimize mission readiness and the focus of research efforts towards relevant military nursing topics.

Another significant first-time accomplishment to assist in our retention efforts, we were able to increase the Certified Registered Nurse Anesthetist Incentive Special Pay or ISP to a multi-year contract program. For all Nurses, we continue to focus on quality of professional life by granting appropriate scopes of practice and giving them challenging leadership positions.

To recruit civil service nurses, we continue to use Special Hire Authority to expeditiously hire nurses into the federal system. We sometimes can supplement these new hires with recruitment, retention and/or relocation bonuses depending on staffing requirements and available funds. As part of a 1-year pilot program, we have initiated Special Pays for registered nurses at five of our Military Treatment Facilities for such things as on-call, weekend, holiday, and shift differential with increased compensations. We will soon pilot the program for Licensed Vocational Nurses at the same sites. After 1 year, we will evaluate the effectiveness of these programs in retaining these clinical experts.

#### JOINT MEDICAL CAPABILITIES

In continuously shaping our human capital work force of nurses, we are better able to collaborate and integrate with the other Services, as well as local, state and federal agencies to maximize our joint medical capabilities within our final priority of working jointly. Nurses now function in significant roles in Homeland Security within Navy Medicine by developing policy, plans and a concept of operations and then managing programs that focus on the security of our customers and our bases. The challenges of today have created a need to evolve the nursing role into a greater perspective that crosses the joint service and interagency world at all levels. As one example, a Navy Nurse is one of two medical representatives working with the Joint Program Executive Office for Chemical and Biological Defense to assess and analyze installations to identify appropriate levels of CBRN (chemical, biological, radiological, nuclear) equipment distribution and support for 59 Navy installations. Nurses at Bethesda, Maryland have been at the forefront with the first collaborative emergency preparedness exercise involving military, federal and civilian health care facilities in the National Capitol Region. In addition, in many of our Military Treatment Facilities, nurses are assigned disaster preparedness and homeland security responsibilities. Noted for our clinical expertise, operational experiences and solid leadership qualities, I can assure you that our Navy Nurses are collaborating at all levels.

#### CONCLUSION

The Navy Nurse Corps has been consistently dynamic in this ever-changing world, remaining versatile as visionary leaders, innovative change agents and clin-

ical experts in all settings. Our Navy Nurses are at the forefront using the latest technology in the operational setting and in our Military Treatment Facilities; conducting cutting edge research; performing as independent practitioners; and creating health care policies across Military Medicine to advance nursing practice and to improve delivery systems.

I appreciate the opportunity to share the accomplishments and issues that face Navy Nursing. It has been an honor to serve as the 20th Director of the Navy Nurse Corps. I am very proud of our distinguished Corps and of our great history. As I move on to a new assignment as Director of TRICARE Region West in San Diego, I remain committed to the Navy Nurse Corps, our great Navy and Marine Corps Team, and the Department of Defense. Like many of our other Navy Nurses and my professional colleagues who function in pivotal executive roles, I will continue to support our efforts to impact legislation, health care policy and medical delivery systems. I hand the Navy Nurse Corps over to the very capable leadership of my successor, Rear Admiral (Select) Christine Bruzek-Kohler.

My greatest gift everyday lies in working with these fine Officers and Civilians and in collaborating with my splendid colleagues across the services, across academia and in our federal and international governments. I want you to know we give our best always to those heroes and families who keep this country free. There is no greater honor than to serve. Thank you.

Senator STEVENS. General Brannon.

**STATEMENT OF MAJOR GENERAL BARBARA C. BRANNON, ASSISTANT  
AIR FORCE SURGEON GENERAL FOR NURSING SERVICES, DE-  
PARTMENT OF THE AIR FORCE**

General BRANNON. Chairman Stevens, Senator Inouye, and Senator Mikulski, I am delighted to once again represent your Air Force nursing team. This year marks my sixth report to you, and it is amazing how quickly the years pass by.

Our Air Force Medical Service has persevered in providing outstanding health care in a very dangerous world. Air Force nurses and aerospace medical technicians are trained, equipped, and ready to deploy anywhere anytime at our Nation's call. It has been an honor to care for so many heroes.

In support of Operations Enduring Freedom and Iraqi Freedom, 2,160 Air Force nurses and technicians deployed this past year. Our aeromedical evacuation (AE) system has proven to be the critical link in the chain of care from battlefield to home station.

In 2004, Air Force nursing AE crews completed 2,866 missions supporting 28,689 patient movement requests around the world. Critical care air transport teams (CCATT) were used in 486 of the AE operations.

**CRITICAL CARE AIR TRANSPORTATION TEAMS**

The synergy of combining our AE crews with these critical care air transportation teams has enabled us to transport more critically ill patients than ever before. Additionally, advances in technology and in pain management have greatly enhanced patient comfort and patient safety.

**SPECIALTY PROVIDERS**

The success of deployed medical care depends on having specialty providers available when needed. Certified registered nurse anesthetists fulfilled 100 percent of their deployment taskings, plus 47 percent of the anesthesiologist taskings. They have ably met all mission requirements and patient care needs.

Lieutenant Colonel Bonnie Mack and Major Virginia Johnson deployed to Tallil Air Base in Iraq as the only anesthesia providers



for 20,000 United States and coalition forces. On one occasion Colonel Mack and Major Greg Lowe provided 24 hours of anesthesia for six Italian soldiers who were severely wounded in a terrorist bombing. These men survived only because expert anesthesia and emergency surgery was close at hand.

Air Force mental health nurses have also played an important role in caring for our wounded and for our health care teams. Sixteen mental health nurses were deployed to the Ramstein Air Base contingency air staging facility to support patients from all services. They provide early intervention to ameliorate long-term emotional effects and in some cases even facilitate return to duty in theater. We recently incorporated mental health nurse practitioners into our provider teams, and they can also substitute for psychiatrists and psychologists in the deployed setting.

#### 332ND EXPEDITIONARY MEDICAL GROUP

Our largest group of Air Force medical "boots on the ground" is at the 332nd Expeditionary Medical Group at Balad, which transitioned from Army to Air Force staffing last September. Its multinational team currently includes 148 Active duty Air Force nursing personnel, and they have many stories to tell. They provided lifesaving surgery for a 65-year-old Iraqi woman who triggered an explosive device as she answered her front door. Her daughter was a translator for the U.S. forces. They cared for the wife of an Iraqi policeman and her two children, all badly burned, when a grenade was thrown into their home. Since September, this team has supported 10 mass casualties, 3,800 patient visits, and 1,550 surgeries.

Air Force nurses are outstanding commanders in both the expeditionary environment and at home station. This past year, 3 nurses have deployed as commanders of expeditionary medical units, and at home there are 16 nurses commanding Air Force medical groups, 45 nurses command squadrons and 1, Colonel Laura Alvarado, is serving as a Vice Wing Commander.

The nurse shortage does continue to pose an enormous challenge and we need to maintain robust recruiting to sustain our Nurse Corps. This year we have brought 110 new nurses on to Active duty, which is slightly more than at this same point last year.

#### NURSE RETENTION

Retention, of course, is the other key dimension of force sustainment, and while monetary incentives play the key role in recruiting, quality of life issues become important as career decisions are being made. We continue to enjoy excellent retention in the Air Force and we ended fiscal year 2004 close to our authorized end strength.

In 2004, the services were directed to identify non-wartime essential positions for conversion to civilian jobs. Initially we targeted almost 400 nursing positions for conversion over the next 3 years, primarily in our outpatient areas. This allows us to concentrate our Active duty nursing personnel in areas that will sustain their wartime skills. As force shaping continues, we will identify additional positions, but recognize that the nursing shortage may present hiring challenges.

## TRISERVICE NURSING RESEARCH PROGRAM

The TriService Nursing Research program continues to support major contributions to the science of nursing. This year 25 Air Force nurses are engaged in studies covering topics from expeditionary clinical practice to retention. For example, Reserve nurse Colonel Candace Ross is the principal investigator for a study on the impact of deployment on military nurse retention. Her findings should provide a road map for more effective retention strategies.

The Graduate School of Nursing at the Uniformed Services University is very responsive to developing programs to meet our military nursing requirements. The school graduates its first class of perioperative clinical nurse specialists in May and the inaugural Ph.D. class will complete its very successful second year. Our certified registered nurse anesthetists (CRNAs) program at USUHS continues to graduate top-notch providers who score well above the national average on their certification exam. In 2004, 9 out of the 13 graduates earned a perfect score on the examination. This program is also unique in that it provides hands-on experience in field anesthesia.

## PREPARED STATEMENT

Mr. Chairman and distinguished members of the subcommittee, it has certainly been a tremendous honor to serve our Nation and to lead the more than 19,000 men and women of our Active, Guard, and Reserve total Air Force nursing force. I have increasingly treasured your support and your advocacy during this very challenging time for nursing and for our Nation.

Thank you for inviting me once again to tell our Air Force nursing story. No one comes close.

[The statement follows:]

## PREPARED STATEMENT OF MAJOR GENERAL BARBARA C. BRANNON

Mr. Chairman and distinguished members of the committee, it is an honor and great privilege to again represent your Air Force nursing team. This year marks my sixth report to you and I am amazed how quickly the years pass by. It has been an honor to support and care for so many heroes—military men and women ready to sacrifice their lives for the cause of freedom, national security and a safer world.

Our Air Force Medical Service has persevered in providing outstanding healthcare in a very dangerous world. Terrorist organizations continue to challenge our peace and security and natural disasters have taken a huge toll in death and devastation. Air Force Nurses and Aerospace Medical Technicians are trained, equipped and ready to respond anytime, anywhere at our nation's call.

## EXPEDITIONARY NURSING

In support of Operations ENDURING FREEDOM and IRAQI FREEDOM, 2,160 nurses, and technicians deployed this past year as members of 10 Expeditionary Medical Support Units, two Contingency Aeromedical Staging Facilities (CASF), and five Aeromedical Evacuation (AE) locations. Three nurses commanded expeditionary medical facilities and provided outstanding leadership. Today, Air Force nursing personnel are serving in a large theater hospital in Balad, smaller hospitals at Kirkuk and Baghdad International Airport, and in other deployed locations.

The 332nd Expeditionary Medical Group at Balad is currently home to 70 nurses, 6 licensed practical nurses and 99 medical technicians. This multi-national group includes 148 nursing personnel from the Air Force active duty team. During this current rotation, they have already supported 3,800 patient visits with 1,600 hospital admissions and 1,550 surgeries. Some patients with massive trauma require surgical teams that include up to seven different surgical specialties simultaneously. They have responded to at least 10 mass casualty surges and have many stories to

tell. They provided lifesaving surgery and cared for a 65-year-old Iraqi woman who triggered an explosive device when she answered her front door. Her daughter was a translator for U.S. Forces. They cared for a young mother, her two-year old child, and her two-month old baby, all badly burned when a grenade was thrown into their home. Her husband is an Iraqi policeman. The team in Balad is our largest group of Air Force medical "boots on the ground," providing life-saving surgery, intensive care and preparation for aeromedical evacuation.

I have had the opportunity to watch our tremendous Air Force nursing team in action as they provide world-class healthcare to wounded soldiers, sailors, marines and airmen. Military medics are saving the lives of people with injuries that would have been fatal in other wars. During World War I, 8.1 percent of the wounded died of their wounds. Today, lifesaving medical capability is closer to the battlefield than ever before, and in Iraq only 1.4 percent of the wounded have died.

Aeromedical Evacuation has proven to be the critical link in the chain of care from the battlefield to home station. The availability of aircraft for patient movement is fundamental to the Aeromedical Evacuation system. Patient support pallets and additional C-17 litter stanchions have increased the number of airframes that can be used for aeromedical evacuation.

In 2004, our Air Force nursing AE crews have flown 2,866 missions supporting 28,689 patient movement requests around the world. The majority of our AE missions are crewed by members of the Air National Guard and Air Force Reserve; it is a seamless, total nursing force capability.

The synergy of combining aeromedical evacuation crews with critical care air transport teams (CCATT), additional high-technology equipment, advances in pain management and more extensive crew training has enabled us to transport more critically-ill patients than ever before. In 2004, CCATT teams were used in 486 patient movement operations. For example, Major Gregory Smith from Wright-Patterson Air Force Base was deployed as the nurse on a three-person CCATT. The team cared for nine casualties who required intensive care and were wounded during the Battle for Fallujah. Six of these patients had lifesaving surgery within six hours of injury and were evacuated from the field hospital within 48 hours of injury. Eight of the nine patients required mechanical ventilation during the flight. CCATT capability makes early air transport possible, reducing the requirement for in-theater beds and delivering injured troops to definitive care within hours rather than days.

There are many, many examples of the tremendous capability and endurance of the AE crews. In one instance, Major Marianne Korn, a reserve flight nurse from the 452nd Aeromedical Evacuation Squadron, March Air Force Reserve Base, and her AE crew transported 82 patients from Ramstein Air Base to Andrews Air Force Base in response to Operation PHANTOM FURY. Overall, during this time the squadron surged to support a 35 percent mission increase and transported more than 1,400 patients between the CENTCOM, EUCOM and NORTHCOM theaters.

Another integral part of the aeromedical evacuation system is the Aeromedical Staging Facility (ASF) that serves as both an inpatient nursing unit and passenger terminal for patients in transit. They are staffed primarily by nursing personnel from the reserve, guard and active component of the Air Force. The level of activity is tied closely to the intensity of the conflict. ASF nurse Lieutenant Karen Johnson and her team cared for 296 patients from 13 separate missions within a three-day period following fierce fighting in Operation PHANTOM FURY.

About that same time, Colonel Art Nilsen, Chief Nurse of the Air Force Squadron at Landstuhl Regional Medical Center, wrote to me and highlighted the tremendous accomplishments of the Army and Air Force team working together in that hospital. He invited me to visit and, in early December, barely three weeks later, I landed at Ramstein Air Base in Germany. My first stop was the 435th CASF at Ramstein, celebrating its first anniversary. Major Todd Miller, Chief Nurse, shared the amazing successes of the CASF over the past year. Deployed personnel have staffed the CASF on a rotational basis; a total of 391 nursing personnel from 55 Air National Guard, Air Force Reserve and active duty units. The team cares for every patient that transits Ramstein, a total of more than 22,000 in 2004. In the CASF, an empty bed is a welcome sight and means another patient is a step closer to home.

It was already dark when I went out to the aircraft with the CASF team. I had a chance to talk with each patient as they were transferred from the aircraft to the waiting ambulance bus. It had been a long and uncomfortable flight, but it was obvious that they had been well cared for and were anxious to continue their journey home. Many talked about the wonderful medical care they had received and gave special praise to the Air Force team at the theater hospital at Balad Air Base and to the AE crews.

I met many of these young men again when I visited Landstuhl Regional Medical Center. My visit was shortly after the battles in Fallujah, and the hospital and AE

system were at surge capacity, as busy as in the early months of war. I will never forget the wounded marines and soldiers at Landstuhl. I was humbled by their acts of courage, their unwavering loyalty and sense of duty to their buddies. The nursing team on the units looked tired but energized. Everyone was working long hours and extra days. But when word came that an aircraft was arriving from Iraq, they came in to help—on days off and even after finishing a long shift. Many said they thought this would be the sentinel experience of their lives and careers. Those who had worked in large civilian trauma centers said they had never before cared for patients with injuries as severe.

Two days later, I was headed home on a C-17 with eighteen litter patients, another twenty who were ambulatory and an AE crew from the 315th Reserve Squadron at Charleston, SC and the 94th Reserve Squadron at Dobbins, GA. The medical crew director was Major Joyce Rosenstrom, a reserve nurse with the 315th. There was also a critically wounded marine on board who was accompanied by an active duty CCATT from the medical center at Keesler Air Force Base, MS., led by pulmonologist, Col Bradley Rust. The other team members were critical care nurse, Capt Erskine Cook and cardio-pulmonary technician SrA Laarni San-Agustin. The ten-hour flight was relatively uneventful with the medics working non-stop to ensure each patient received great care with particular attention to pain management. At the Andrews Air Force Base flight line, medical personnel from the Air Force hospital, Walter Reed Army Medical Center and Bethesda Naval Medical Center transferred patients to waiting ambulance buses. The patients' journey from the battlefield back to the United States was complete.

The success of deployed medical care depends on having specialty providers available when needed. Anesthesiologists are key members of surgical teams, but significant shortages on active duty have left gaps on deployment packages. Certified Registered Nurse Anesthetists (CRNAs) have filled deployment requirements for anesthesia providers forty-seven percent of the time and have ably met all mission and patient care requirements.

Lieutenant Colonel Bonnie Mack and Major Virginia Johnson are CRNAs deployed to Tallil Air Base in Iraq as the only anesthesia providers for over 20,000 U.S. and coalition forces, and civilian contract personnel. During their deployment, a terrorist bomb ignited an Italian police compound just 10 kilometers from their facility. Colonel Mack and Major Greg Lowe provided anesthesia during the surgeries of six severely wounded Italian soldiers, working continuously for almost 24 hours. These men survived because emergency surgical intervention and anesthesia were there to support them.

During her deployment, Colonel Mack also served on a Critical Care Expedient Recovery Team assembled at Tallil to provide medical care on combat search and rescue missions when a para-rescue team is not available. Their role is to provide care during transport of recovered crew members to a medical facility. A mission can take the team into dangerous territory, but she willingly volunteered. In her words "it is a great honor to be involved in the safe return of even one airman." Her team flew training missions and launched in response to a bombing in Karbala, but fortunately did not have to respond to a downed airman.

Major Delia Zorrilla, a perioperative nurse, was awarded the Bronze Star in recognition of her tremendous service while deployed to Manas Air Base, Kyrgyzstan in support of Operation MOUNTAIN STORM. She served as the Chief Nurse of the facility and established a resupply system that ensured critical surgical supplies were available 24/7.

Our mental health nurses have played an important role in caring for patients during Operation IRAQI FREEDOM and Operation ENDURING FREEDOM. Sixteen mental health nurses deployed to Ramstein Air Base to support Army troops returning from Iraq. They first interact with patients in the CASF and screen for Post-Traumatic Stress Disorder. They also provide patient education and strategies for coping with emotional distress and life-altering injury. Having this capability far forward enables early intervention and can ameliorate long-term emotional effects and, in some cases, even facilitate return to duty in theater.

In the last sixteen months we have recognized the importance of mental health nurse practitioners and inserted the capability into deployment packages. They can also substitute for psychiatrists and psychologists in the deployed setting. We currently have five working in our facilities and five more will begin their practitioner programs this summer.

In addition to providing service in Operation IRAQI FREEDOM, Air Force Nursing supports humanitarian relief around the world. Lieutenant Colonel Diana Atwell from Beale Air Force Base, CA led a team of 14 Air Force and 30 Salvadorian military and Ministry of Health medics in a humanitarian mission to San Salvador. The team planned and set up healthcare at five sites in impoverished districts with-

in the city. They provided primary care, internal medicine, pediatric, optometry and dental services to more than 8,000 patients. Patients lined up for hours and more than 11,000 patient care services were provided, double what the team had anticipated. General Carlos Soto Hernandez, military Chief of Staff, visited one of the sites and praised them for their dedication and commitment.

In another humanitarian effort, Major Tina Cueller, a reservist and Professor at the University of Texas, launched an initiative to assist Iraqi nurses. During her annual tour at Ramstein AB, Maj Cueller learned that over the years, looting in Iraq had stripped nursing schools of all textbooks. When she returned to the University of Texas, she arranged a book drive, collecting over 3,000 nursing textbooks. They were delivered through the aerovac system from Lackland AFB, Texas, to Ramstein Air Base Germany, to their final destination, Kuwait City. Major Cheryl Allen, an Army nurse, received the books in Kuwait and forwarded them to Baghdad where Colonel Linda McHale, deployed to work with the Iraqi Ministry of Health, coordinated their distribution.

Humanitarian relief is not confined to far-away places, and the Air Force has been called to lend a hand in support of Homeland Medical Operations. Capt Ron Leczner from the 81st Aeromedical Staging Facility (ASF) at Kessler, MS coordinated the transfer of 47 local nursing home patients after the governor of Mississippi declared a mandatory evacuation of the Gulf Coast in anticipation of Hurricane Ivan. A skeleton crew at the ASF, including medical technician students, moved 41 non-ambulatory and six ambulatory geriatric patients to Keesler Medical Center during 69 mile per hour winds. The nursing home residents were returned to their facilities by ASF staff and local ambulances within 12 hours after the hurricane passed.

#### *Skills Sustainment*

Lessons learned from the field and after-action reports have led us to reevaluate clinical currency and sustainment training for our nursing personnel. Our Readiness Skills Verification Program has been refined and is web-based with embedded links to specific training materials. Units are encouraged "to think outside the box" and establish training agreements as needed with Army, Navy, VA or civilian institutions to keep their members clinically current.

Air Force nurse and medical readiness officer Major Lisa Corso from the 704th Medical Squadron at Kirtland, NM, found new ways to improve the readiness skills of her reserve unit. For their annual field training and mass casualty exercise, Major Corso invited the local Army reserve unit to participate. Both groups were part of the planning process and the Army medics had a wealth of first-hand experience from members previously deployed. They provided expert instruction on skills that were identified for refresher training. The exercise was a huge success, and both units look forward to more joint training exercises in the future.

#### *Recruiting and Retention*

The nurse shortage continues to pose an enormous challenge nationally and internationally. This year, the Bureau of Labor Statistics projected registered nursing would have the largest job growth of any occupation through the year 2012, and it is now estimated that job openings will exceed the available nurse pool by 800,000 positions. The crisis is complicated by an increasing shortage of masters and doctoral-prepared nursing faculty across the country. Although the number of enrollments in entry-level baccalaureate programs rose 10.6 percent last year, the National League for Nursing reported that more than 36,000 qualified students were turned away due to limitations in faculty, clinical sites, and classrooms. Employer competition for nurses will continue to be fierce, and nurses have many options to consider.

A robust recruiting program is essential to sustain the Nurse Corps; our fiscal year 2005 recruiting goal is 357 nurses. As of March 22, 2005, we have brought 110 new nurses onto active duty, 31 percent of our goal and more than at the same point last year. The Air Force continues to fund targeted incentive programs to help us attract top quality nurses. We have increased our new accession bonuses from \$10,000 to \$15,000 for a four-year commitment and our highly successful loan repayment program was again available this year. Last year we awarded 134 loan repayments, and this year funds were available for 26. Both of these programs have been very successful in attracting novice nurses but not as successful in attracting experienced nurses, particularly in critical deployment specialties. To further support recruiting, we have increased nursing Air Force ROTC quotas for the last two years and filled 100 percent of our quotas. We added additional ROTC scholarships for fiscal year 2005, increasing our quota from 35 in fiscal year 2004 to 2041.

We continue to advertise our great quality of life, career opportunities and strong position on the healthcare team. I also take advantage of any occasion to highlight

the tremendous personal and professional opportunities in Air Force Nursing. I encourage nurses to visit their alma mater and nursing schools near their base. Our slogan, "we are all recruiters" continues to reverberate, and active duty nurses enthusiastically tell our story and encourage others to "cross into the blue". We have also expanded media coverage of Air Force Nursing activities and accomplishments to attract interest in the civilian nurse community. The cover of the December 2004 Journal of Emergency Nursing featured Air Force nurse Major Patricia Bradshaw and Technical Sergeant Patricia Riordan, respiratory therapist. They deployed to the 379th Expeditionary Aeromedical Evacuation Squadron and were shown caring for a wounded IRAQI FREEDOM soldier. The article showcased the unique role of critical care nurses in the aeromedical evacuation environment. Nursing Spectrum magazine honored Lieutenant Colonel Cassandra Salvatore as the Greater Philadelphia/Tri-State Nurse of the Year and Capt Cherron Galluzzo, Florida Nurse of the Year for 2004 and Air Force Company Grade Nurse of the Year.

Retention is the other key dimension of force sustainment. While monetary incentives play a key role in recruiting, quality of life issues become very important considerations when making career decisions. We continue to enjoy excellent retention in Air Force nurses and ended fiscal year 2004 close to our authorized end strength of 3,760.

We conducted a survey in 2004 to identify positive and negative influences on nurse corps retention. The top two factors influencing nurses to remain in the Air Force were a sense of duty and professional military satisfaction. Our nurses clearly enjoy the unique opportunity to serve our country and to care for our troops. Local leadership and inadequate staffing were the two primary detractors identified. We are clarifying their concerns and are providing better leadership development programs. We are also putting senior, experienced nurses back at the bedside to guide and mentor our junior nurses and support their professional development and satisfaction.

It has been three years since we initiated our Top Down Grade Review to correct our imbalance of novice and expert nurses. We have identified a number of company grade authorizations for conversion to field grade based on requirements and continue to pursue adjustments of authorizations among other career fields. We also identified the significant positive impact civilianizing a larger percentage of company grade positions would have on grade structure and career progression. Serendipitously, the services were directed by the Office of the Secretary of Defense to identify military positions not wartime essential that could be converted to civilian jobs. In our initial evaluation we identified 305 Nurse Corps and 75 enlisted Aerospace Medical/Surgical Technician billets to convert to civilian authorizations over the next three years. These changes will primarily be in the outpatient setting, concentrating our military personnel in our more robust patient care areas to maintain clinical currency in wartime skills. We will continue to identify nurse positions which do not provide expeditionary capability or support our wartime training platforms for civilian conversion.

#### *Research*

Air Force nurse researchers continue to excel at expanding the science of military nursing practice thanks to the strong support from the TriService Nursing Research Program (TSNRP). This year, Air Force nurses are again leading the way in advancing our understanding of the effects of wartime deployment on today's military force. Twenty-five Air Force nurses are currently engaged in research covering priorities from clinical practice and training to recruitment and retention issues.

Colonel Penny Pierce is an Air Force Reserve Individual Mobilization Augmentee assigned to the Uniformed Services University of the Health Sciences (USUHS) Graduate School of Nursing (GSN). She is conducting research to determine the effects of deployment experiences and stressors on women's physical and mental health, and their likelihood to remain in military service. Colonel Pierce received the 2004 Federal Nursing Services Award at the 110th Annual Meeting of the Association of Military Surgeons of the United States for her pioneering research on factors that influence the health of military women.

Colonel Candace Ross, a reserve nurse at Keesler Air Force Base in Biloxi, Mississippi is heading up a TSNRP-funded study on the Impact of Deployment on Nursing Retention. The study is designed to identify factors associated with retention of nursing personnel in the military service in hopes of identifying actionable areas for retention efforts.

Colonel Laura Talbot, an Air Force reservist with the 440th Medical Operations Squadron at General Mitchell Air Reserve Station in Milwaukee, Wisconsin, and nursing faculty member at USUHS, is conducting research to test two different approaches to prosthetic rehabilitation for soldiers with below-the-knee amputations.

This research is vital because 2.4 percent of all wounded-in-action during Operation IRAQI FREEDOM and ENDURING FREEDOM have suffered traumatic amputations. This is almost double the 1.4 percent during the Korean Conflict. Her research may promote accelerated rehabilitation for amputees and facilitate return to active duty for those who are able.

#### *Education*

The Graduate School of Nursing at the Uniformed Services University (USUHS) supports military clinical practice and research during war, peace, disaster, and other contingencies. The PeriOperative Clinical Nurse Specialist program will graduate its first class of six in May 2005. The students are conducting research to identifying organizational characteristics that promote or impede medication errors across the surgical continuum of care. Fewer medication errors will save lives and shorten hospital stays. They will be presenting their work at the National Patient Safety Foundation Conference later this spring.

The graduates of the Nurse Anesthesia Program in 2004 once again scored significantly higher than the national average on their certification examination. Nine of the 13 CRNA graduates scored the maximum score of 600 and three scored 595 or higher, well above the national average of 551.5.

In addition, the Air Force is currently funding two full-time students and another Air Force nurse is enrolled part time in the USUHS PhD program.

#### *Nursing Force Development*

The USAF Nurse Transition Program (NTP) marked its 27th year in 2004. The NTP is an 11-week, 440-hour course designed to facilitate the transition of novice registered nurses to clinically competent Nurse Corps officers. The program provides clinical nursing experience under the supervision of nurse preceptors and training in officership and leadership. There were several key changes this year, among them the addition of our first overseas NTP training site at the 3rd Medical Group, Elmendorf Air Force Base, Alaska. Last November, under the guidance of NTP Coordinator, Major Deidre Zabokrtsky, we successfully graduated our inaugural class of four nurses from the program.

Our nurses provide outstanding leadership in the expeditionary environment, in military treatment facilities, and in positions not traditionally held by Nurse Corps officers. We currently have 16 nurses commanding Medical Treatment Facilities and 45 nurse Squadron Commanders. Col Laura Alvarado is the first nurse to serve as a Vice Wing Commander, and is at the 311th Human Systems Wing, Brooks City Base, TX. Maj Kari Howie is a CRNA and the first nurse to serve as the Deputy Chief of Clinical Services for a major command headquarters.

This year, for the first time in history, two active duty nurses are serving concurrently as general officers in the Air Force. Brigadier General Melissa Rank joins me, and was promoted to her current grade on January 1, 2005.

Colonel John Murray was the first military nurse to be appointed full professor at the Uniformed Services University of the Health Sciences. Colonel Murray was also selected by the Assistant Secretary of Defense for Health Affairs to serve on the National Advisory Council for Nursing Research.

Mister Chairman and distinguished members of the Committee, it has been my tremendous honor to serve our nation and to lead the more than 19,000 men and women of our active, guard and reserve total Air Force Nursing team for the last five years. I have increasingly treasured your support and advocacy during this challenging time for nursing and for our Air Force. Thank you for inviting me to tell our story once again. No one comes close!

Senator STEVENS. Well, thank each of you very much. It is delightful to have you back with us again this year.

I only have one question, and I am going to usurp Senator Mikulski's role. You have heard her suggestion. Would that suggestion have any role in the nursing corps, Colonel?

Colonel BRUNO. Yes, sir, I think it certainly would. We currently have a program in place to loan repay, but it is a short-term, funded-this-year program to loan repay up to \$30,000 for Nurse Corps officers, one time. It has been a useful tool in our recruiting. It was implemented at a time when we also increased the accessions bonus for those nurses. So they could come on to active duty and get a longer obligation if they took the accessions bonus and the

loan repayment. So it has been useful, and we think that a continued use of that would be great.

Senator STEVENS. Admiral.

#### RECRUITMENT AND RETENTION

Admiral LESCAVAGE. I believe it is a great idea. As I observe recruiting and retention in the Navy Nurse Corps and all across military medicine, as the Surgeons General stated, it is not necessarily about monetary resources. We stay in for certainly greater reasons. However, monetary resources help and I believe that we need to be equitable.

And as I watch recruiting, I can tell you it is difficult to be at a recruiting booth where either our sister services or other Federal entities or in the civilian arena are all offering different options. We all have different programs, and perhaps it is time that we all get aligned and we are on the same song sheet.

The idea that Senator Mikulski had is a very good one. As I stated, we are doing a pilot program in five of our military treatment facilities for the civilian nurses and trying to retain them. But as mentioned, you go to the VA, and there are different options down that road too. So we are looking for anything out there, any ideas. So thank you.

Senator STEVENS. General.

General BRANNON. I would like to make two points. First of all, our loan repayments have been the most successful tool to bring new graduates into our Nurse Corps.

Senator STEVENS. How much can you repay the debt?

General BRANNON. This year we were repaying \$29,000. Last year it was \$28,000, a one-time thing. We gave 134 loan repayments. This year we had 26 to offer, and they went very quickly. The \$15,000 accession bonus is helpful, but the loan repayment is more popular. People come out with a tremendous amount of debt from nursing school.

The one point I would like to make, however, as our accession bonus and loan repayment is successful, we do have problems attracting experienced nurses in some of the critical specialties. Both of these incentives tend to bring people who are brand new out of school. So we do spend time molding and shaping them.

Senator STEVENS. Thank you very much.

Senator Inouye.

Senator INOUE. If I may, I would like to follow up on that without getting into Senator Mikulski's territory.

According to the Department of Labor Statistics of the United States, by the year 2012, there will be a demand for over 1 million new and replacement nurses, and it appears that we will not be able to meet that demand. So obviously it is not just in the services but throughout this Nation. I do not know what the solution is, but it is a very critical one and something has to be done, otherwise we will have great problems not in just recruiting nurses but in recruiting military personnel.

I would like to ask a couple of questions. Most Americans look upon nurses as being female, but I know that in the military there are a lot of men. What proportion of the Nurse Corps in the Army is male?



## MALES IN NURSE CORPS

Colonel BRUNO. About 34 percent.

Senator STEVENS. And in the Navy?

Admiral LESCAVAGE. One-third.

General BRANNON. We are about the same, sir, about 32 to 33 percent.

Senator STEVENS. Do you make a special effort to recruit men or it is the same?

General BRANNON. It really is the same in the Air Force, sir.

Admiral LESCAVAGE. They seem more than interested in joining the military services. Many, I notice, do go on to be nurse anesthetists or critical care nurses and operating room nurses.

General BRANNON. You know, I do notice that probably a larger percentage of the men do have prior service, and I think they see nursing as a wonderful career opportunity, they get their education, and then they join the Nurse Corps.

Senator INOUE. General Brannon, what is this air expeditionary force concept that you employ in your recruiting?

General BRANNON. You mean as far as—

Senator INOUE. Deployment.

General BRANNON. In deployment. Well, really the Air Force's air expeditionary forces consist of essential teams that are on call to deploy and manage our medical facilities in the case of medical and to provide patient care for a period of time. We have five teams that are in what are called the Air Expeditionary Force (AEF) window. So we have one team that is deployed at any time.

We use that combined with our expeditionary medical system which is our very capable, small facilities, up to the size of a theater hospital that we deploy far forward in kind of a hub and spoke arrangement. So we have teams of people that come into these areas, take over for the crew that is ready to rotate back home, and provide that in-theater care. So it is a great system.

I think now we have all developed the mind set that as medics, we are expeditionary. Deployment is no longer something that you might be called to do. It is a part of your service and you can anticipate and look forward to your opportunity to serve. It has created a lot of enthusiasm, I think, for that military aspect of service.

## VA NURSES

Senator INOUE. Admiral Lescavage, in your presentation I got the impression that VA nurses are paid better than Navy nurses. Is that correct?

Admiral LESCAVAGE. Yes, sir, and the VA doctors in many cases.

Senator INOUE. I thought it was the other way around.

Admiral LESCAVAGE. Well, if you add our retirement, perhaps that may change the numbers a bit, but as you know, not everyone stays to retirement.

Senator INOUE. At this moment, the pay of VA nurses is higher than military nurses?

Admiral LESCAVAGE. It depends on the grade level, but many times, yes.

Senator INOUE. Is that the situation in the Army?

Colonel BRUNO. Yes, sir, it certainly is. We can use special pay rates that equal what the VA is if the VA is in the area, but they are difficult to implement. You have to do studies, but we do utilize them effectively.

Senator INOUE. Is that the situation in the Air Force?

General BRANNON. Well, sir, I do not think there is a significant discrepancy in our Active force and the VA nurses. What becomes of great concern is the VA nurses and our civilian Air Force nursing force. As we look to increase our number of civilian nurses, the competition with the VA will be significant. So we are seeking to establish pay rates that are comparable with VA nursing pay.

#### DEPLOYMENT POLICY

Senator INOUE. Is the deployment policy among the services the same or do they differ in every service?

Colonel BRUNO. I think they are different, sir. In the Army, if you deploy, you deploy for 1 year, and you are stabilized for as long as possible afterwards, but the deployment is 1 year.

Senator INOUE. What about the Navy?

Admiral LESCAVAGE. We are about 6 months, depending on the mission.

General BRANNON. We have 16 months at home and then a 4-month deployment, then 16 months at home, 4-month deployment, for the most part.

Senator INOUE. What would happen if the Army adopted the Air Force plan?

Colonel BRUNO. Well, I think it might be helpful with our retention of some nurses. We have an exit poll that we conduct when nurses leave, and one of the issues that has come forward in the last 2 years has been the length of deployment. It is very difficult to be away from home for that length of time.

Senator INOUE. What about the Navy?

Admiral LESCAVAGE. Well, I think our people are pretty happy with the 3 to 6 months. We support the marines, as you know, and we are sending mostly operating room nurses, critical care, and nurse anesthetists. So up to 6 months seems to do the trick.

Senator INOUE. Have your problems increased now that sailors are doing ground duty in Iraq?

Admiral LESCAVAGE. I'm sorry.

Senator INOUE. The sailors are now doing infantry work in Iraq.

Admiral LESCAVAGE. Yes, sir.

Senator INOUE. Has that complicated your problems in Iraq?

Admiral LESCAVAGE. No, sir. We are there to support the sailors and the marines and any others.

Senator INOUE. Thank you, Mr. Chairman.

Senator STEVENS. Thank you.

Senator MIKULSKI.

Senator MIKULSKI. Thank you very much, Mr. Chairman.

We are very much on your side. In addition to being on this excellent subcommittee, I have a civilian life both on the Labor/HHS Committee, and working with Senator Sue Collins, we have been working on the civilian nursing shortage. So we know that you are in a war for talent with community-based hospitals and academic centers of excellence where the nurses themselves are being

trained. As you know as nurses, you tend to stay where you get your training. It is just part of the culture. So we understand that. And then VA is competing with them, and now we have got all this competition. So we understand the challenges that you face.

One of my first questions is the retention issue and what does it take to be able to retain. Now, Senator Inouye raised the issue of the OPTEMPO which you are facing, and I think we would encourage an evaluation of that. Also, how we could be supportive in that evaluation as you have to go up with your brass. So you are not functioning by yourself here as independent agents.

Second, I was fascinated, General Brannon, where on page 16 of your testimony you said two things affected them. It was not only money and OPTEMPO, but it was local leadership and inadequate staffing. What does local leadership mean? Is that the general over the base? Is this the nurse on the floor that the young nurse reports to?

General BRANNON. Well, that is a very good question and one I have asked myself. We need to go back and survey that. Anecdotally when I talk to some of the junior nurses, we tend to have a pretty junior staff, and we have very junior folks often working together. I think they lack that closer contact with the more seasoned, experienced nurses who provide the professional development, the support, and really the nurturing that every nurse needs. We are looking at changing our system a bit to put some of the more senior experienced nurses back into direct patient care so they can be the mentors and leaders to our promising young officers.

#### INADEQUATE STAFFING

Senator MIKULSKI. Also, what about the inadequate staffing? It seems like one goes against the other.

General BRANNON. Sure, and I think inadequate staffing derives from—our staffing ratios are pretty good, and I know you are familiar with that, knowing what is going on in nursing around the Nation, but when you have people who are deployed off the units or out of the facility, everybody picks up a little bit additional duty.

Senator MIKULSKI. So there is a lot of stress.

General BRANNON. There is a lot of stress.

Senator MIKULSKI. So your nurses, male and female, are saying, number one, there is the pay issue.

Second, there is the deployment, but when you are in the military, you know you are going to be deployed, but there are different deployment schedules within the services. The question is should we have a uniform deployment policy. I do not know that. I would look to you and your wise heads.

And then the other, though, is the staffing. There is the staffing in battlefield conditions, or in your riveting story about traveling from Iraq all the way back to Andrews, this was a very poignant story that you tell in your testimony.

But the question is what about the use of other kinds of nurses. At the hospitals, does everyone have to be a bachelors degree nurse to be with you? Can you use community college nurses? Can you look at medical corpsmen who have a background and perhaps use that medical background, a military background, but get an asso-

ciate of arts of degree in nursing and move them quicker into the field? Because if they are enlisted, they tend to be older and, quite frankly, cannot take time off while they are in school.

#### EDUCATIONAL LEVEL

General BRANNON. Well, frankly, Senator Mikulski, I think one of the things that makes our military nursing force so strong is our educational level. As you know, we are across the services an all-baccalaureate force on Active duty, with about one-third having masters degrees.

It is very difficult to present evidence that says that makes a difference. However, this past year in the Journal of the American Medical Association there was a great study by Professor Linda Aiken in Pennsylvania actually showing that in surgical patients, the higher percentage of the baccalaureate prepared nurses, the fewer complications and the lower the incidence of morbidity and mortality. So I think we are beginning to see some substantive evidence that education does make a difference—

Senator MIKULSKI. I am in no way minimizing the bachelor of science (B.S.) or whatever, but we are facing a crisis here. And what we are looking at is, in some ways, subsets of who does what where. I think I am confused between your use of the terms “military nurses” and “civilian nurses.” Do you have civilian nurses?

General BRANNON. We do, indeed, and they are not all baccalaureate.

Senator MIKULSKI. What do they do?

General BRANNON. They provide nursing care in many of our areas, and, as I mentioned, primarily in some of the areas where there are critical specialties where experience makes a big difference.

Senator MIKULSKI. I am going to jump in. I know our time is short, but I do not think we understand it. I am new to this subcommittee. It is a spectacular subcommittee with astounding leadership, and on the 60th anniversary of the Victory in Europe (VE) Day, we know we want to salute these guys here, one who will forever remember the battle of Monte Cassino.

But what we are seeing is different pay, and even among all of you, different deployment schedules. Then the use of nurses, both the military nurses and the civilian nurses. I wonder if you could submit to me and to the subcommittee kind of a chart on some of these issues as we look at it and then maybe perhaps a comparison to VA and other Federal counterparts so we can work with you on what we need to do to help you and also then to sort out where other talent could be used in the military but not at this highly unsophisticated level.

[The information follows:]

#### PAY SCALE COMPARISONS

The chart below compares the civilian pay grades assigned to inpatient registered nurses at a representative sample of our medical treatment facilities (MTFs). The MTFs queried all Bachelor of Science in Nursing requirements for their civilian nursing staff. Contract employees may hold an Associate Degree in Nursing if it is written into the contract. Eglin AFB and Wilford Hall Medical Center pay the standard General Schedule (GS) rate while other locations are authorized locality

pay. The civilian pay rates were obtained from Salary.com and are current as of June 1, 2005.

The grade for our nursing positions is predetermined; however, the VA does not advertise positions in the same manner. Each successful applicant is reviewed by a Nursing Professional Standards Board to determine grade and salary based on the individual's education and experience. Once the grade is determined, the pay scale for that particular locality is used. As a result, the VA rates could not be included.

Location	Facility	GS Level/Pay	Civilian—Local Pay
Anchorage, AK .....	Elmendorf AFB .....	GS 9 (\$50,476) .....	\$67,757
Dayton, OH .....	Wright-Patterson AFB .....	GS 11 (\$54,389) .....	\$57,299
Pensacola, FL .....	Eglin AFB .....	GS 11 (\$57,000) .....	\$51,694
San Antonio, TX .....	Wilford Hall Medical Center .....	GS 11 (\$53,841) .....	\$53,306
San Francisco, CA .....	David Grant Medical Center .....	GS 9 (\$49,841) .....	\$66,352
		GS 10 (\$54,886) .....	
Washington DC .....	Malcolm Grow Medical Center .....	GS 11 (\$55,652) .....	\$59,941

Senator MIKULSKI. I just say to my colleagues and to everyone listening, starting on page 4 is Major General Brannon's story about these thousands of flights that you have made and how they made a difference. So let us just kind of work together, but we have got a very big job.

Good luck to you, Admiral. So you are going to be running TRICARE.

Admiral LESCAVAGE. Yes, ma'am.

Senator MIKULSKI. Well, that is called jumping out of the fat and into the fire.

Thank you.

#### ADDITIONAL COMMITTEE QUESTIONS

Senator STEVENS. Thank you very much, Senator.

I thank you very much for your testimony. Senator Mikulski is right. We all remember your services very well from our days in World War II. It is a few days after the 60th anniversary. So none of you were there, but we thank you anyway for being part of the group that helped us so much. We look forward to working with you in trying to find additional ways to give incentives for your recruitment. Thank you very much.

Colonel BRUNO. Thank you, sir.

Admiral LESCAVAGE. Thank you, sir.

General BRANNON. Thank you, sir.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

#### QUESTIONS SUBMITTED TO LIEUTENANT GENERAL KEVIN C. KILEY

##### QUESTIONS SUBMITTED BY SENATOR TED STEVENS

##### SUPPORTING TRANSFORMATION

*Question.* Would each of you please describe some of the new technologies and tactics that have proven most effective in caring for our front line troops?

*Answer.* The adoption of new trauma doctrine, called Tactical Combat Casualty Care (TC<sup>3</sup>), has incorporated additional emphasis on care far forward, be it self aid, buddy aid, or medic aid. With an emphasis on early intervention, this doctrinal change has had a significant effect in reducing deaths and limiting subsequent necessary treatment and rehabilitation. This doctrine is empowered through the use of new products, such as tourniquets, hemostatic bandages, and the newly reconfigured first aid kit.

Another doctrinal change over the past several years has been the speedy removal of patients through evacuation chains to definitive care within our medical centers and hospital in Europe and the United States. There are definitive benefits to the patient who can begin treatment routines sooner, but it also reduces the medical footprint in theater and thereby medical Soldiers at risk. This doctrinal change could not have occurred without a broader scope of evacuation support medical devices, such as Codman neurological monitors, Chillbuster patient warmers, Belmont fluid warmers, or KCI wound vacuums.

*Question.* What tools and equipment are still required to improve the care provided to combat casualties?

*Answer.* A recent study of all available resuscitative fluids and volume expanders was concluded, and the study found the use of hextend as the most efficacious in clinical outcomes. This product is being worked into our Rapid Equipping Force Initiative for quick fielding to the theater for full scale adoption.

The use of recombinant factor VII as a clotting agent for surgical patients as well as internal bleeding from blunt trauma could have an incredible effect. This product, which is approved in Europe, is in a Phase III clinical trial for a trauma indication and if successful, it will be rushed to full scale use. Because it does not have FDA approval, it is only used in an off-label, compassionate manner which limits its potential value.

Oxygen remains a consistent treatment component of combat casualty care, and many actions are being taken to reduce the need for cylinders in theater. Today, oxygen is the largest logistical burden for the medics. In an adaptation of industrial oxygen generators, used for welding and manufacturing processes, new medical generators are being developed in smaller scale and greater oxygen content. This downsizing has gotten to the point that wards and operating room tables can be supported through these ambient air oxygen generators. Continued development is ongoing to reduce them to individual patient sizes that will support evacuation patients.

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#### QUESTION SUBMITTED BY SENATOR PETE V. DOMENICI

##### ACCESS TO MENTAL HEALTH SERVICES

*Question.* I understand from your statements that you are diligently pursuing incidences of mental health issues such as depression, anxiety and post-traumatic stress disorder. I commend you for that. It is my understanding that to date the Department of Defense has done a good job reaching out to soldiers upon their return.

My concern is for mental health services for rural Guard and Air Guard members in particular. Those Guardsmen in places like Springer, New Mexico are far from metropolitan areas and do not have access following demobilization to military mental treatment facilities with mental health services.

I understand that this rural demographic is a small portion of your total population, but do you share my concerns about mental health access for rural Guard and Reserve members and if so can you give me your thoughts on how we might best address this issue?

*Answer.* Providing mental health services for rural Guard and Air Guard members is a recognized challenge. Reserve component Soldiers, who have been activated, are entitled to all of the behavioral health services offered to active duty personnel. After demobilization, reserve component Soldiers are entitled to the TRICARE benefit for six months. Veterans who have served in OEF/OIF are entitled to care at the Veterans' Administration for two years. However, rural Reserve component soldiers may not live near military or VA providers. The Military One Source program was developed in October 2003 for Soldiers and Army civilians redeploying from combat. It includes a 24-hour, seven-days-a-week toll-free phone information and referral telephone service and a website with links to information and assistance. Initially developed by the Army for both active and reserve component Soldiers and family members worldwide, it has now been adopted by the Department of Defense for all service members, families, and civilian employees. In January 2005, the Department of Defense announced a Post-Deployment Health Reassessment to screen all Soldiers 90 to 180 days after deployment. One of the reasons for this additional screening is that many Soldiers will not recognize or report mental health symptoms at the time they return home, but may later. These reassessments are scheduled to begin on September 1, 2005.

## QUESTIONS SUBMITTED BY SENATOR RICHARD C. SHELBY

## ANTHRAX VACCINATIONS

*Question.* Pursuant to the order of a federal district court, the anthrax vaccination program has been suspended. However, this past December Secretary Wolfowitz requested an emergency authorization to resume use of the anthrax vaccine. Considering all the documented health risks, does the panel feel it is in the best interest of the military to resume vaccinating our troops? And why?

*Answer.* Anthrax spores can kill or incapacitate American troops if used against us as a weapon. It is clearly in the best interests of our troops to use the only round-the-clock protection available against this lethal threat. The sudden deaths from inhalation anthrax among U.S. Postal Workers and other Americans during the fall 2001 anthrax attacks on Senator Daschle and Senator Leahy and other targets demonstrate how easy it is for people to breathe in anthrax spores without realizing they have been exposed. In April 2002, the National Academy of Sciences released a Congressionally commissioned report that reviewed all available scientific evidence and heard from people concerned about anthrax vaccine. The National Academy of Sciences then concluded that the anthrax vaccine licensed by the Food and Drug Administration protects against all forms of anthrax and is as safe as other vaccines.

## COMBAT STRESS CONTROL TEAMS

*Question.* General Kiley, in your testimony you state there are a wide array of mental health assets in theater including Combat Stress Control teams and other personnel assigned to units and hospitals. Can you provide some numbers and tell us how many teams and personnel make up this program? Are there any current plans to increase your numbers of mental health assets in theater?

*Answer.* Since the beginning of Operation Iraqi Freedom, combat stress units and other mental health assets have been deployed into theater. Personnel include psychiatrists, psychologists, social workers, psychiatric nurses, occupational therapists and enlisted technicians. As well as the combat stress control teams, there are mental health assets organic to the division and combat surgical hospitals. They work in close conjunction with the chaplains. The combat stress teams work closely with leaders and Soldiers to help them cope with both the stresses of combat and the challenges of being away from families for long periods of time. Their role is to provide education, preventive services, and restoration and treatment services. Typical educational activities include combat and operational stress control and suicide prevention classes, and preparation for reunion with their families. Clinical work includes individual and group evaluation and treatment. There are 10 combat stress control teams in theater, with a total of 224 mental health personnel. This number is appropriate for the number of U.S. forces deployed in the CENTCOM Theater. To add more to the theater would not add significant benefit and would detract from the staff available in CONUS and OCONUS providing care to other Soldiers and their families.

## RECRUITING AND RETENTION

*Question.* In your testimony, General Kiley, you note that you are concerned about the retention of health care professionals and that you are working with the Commander of Army Recruiting to reverse the current trends. How far from your desired retention and recruiting rate are you currently? What steps are you taking to address the situation?

*Answer.* The Global War on Terrorism and Army transformation make recruitment and retention of Army Medical Department personnel challenging. Transformation has provided a new set of requirements which, given the long training tail for medical personnel, cannot be immediately met through recruitment and student programs. The only way to meet this need, in the near term, is to retain individuals to fill these positions. At the same time, members of the Army Medical Department have some of the most "exportable" skills in the Army and some skills, like the Nurse, are in short supply and high demand in the civilian market place. The lure of lucrative employment coupled with no deployments is having its effect on retention. A comparison of three year average continuation rates for 1999 to 2001 (pre 9/11) against 2002 to 2004 shows significant changes. At the 7th year of service, Nurses are down from 87 percent to 84 percent and at the 5th year, 93 percent to 90 percent; Physician Assistants have demonstrated a remarkable drop in the 12th, 13th and 14th year of service (92 percent to 76 percent, 85 percent to 77 percent and 88 percent to 72 percent respectively).

Direct accessions of medical personnel have also proved to be challenging. The chart below shows current fiscal year 2005 recruitment for both Active and Reserve component medical personnel.

	Active Duty	Percent	Army Reserve	Percent	National Guard	Percent
Medical Corps .....	18 of 40 .....	45	64 of 201 .....	32	12 of 104 .....	12
Dental Corps .....	10 of 30 .....	33	7 of 48 .....	15	0 of 32 .....	.....
Nurse Corps .....	75 of 170 .....	40	225 of 485 .....	46	13 of 55 .....	24

The backbone of medical recruiting is our student programs (scholarships and stipends). Recruitment for these student programs is more difficult than expected. The Army has requested additional Health Professions Scholarship Program allocations. We believe that these additional scholarships are needed and as individual influencers learn that more scholarships are available, they will be filled by quality individuals who will shape the medical department of the future.

Increases in Incentive Special Pays, Accession Bonuses, Loan Repayment Programs and other incentive pays are all tools which can be utilized by the recruiters and Commanders to influence recruitment and retention decisions. In February 2005, the Army increased Incentive Special Pays for Certified Registered Nurse Anesthetists retroactive to January 1, 2005. As of June 2005, 88 percent of the eligible Nurse Anesthetists elected to sign a new Incentive Special Pay contract. Twenty-two percent of these nurses opted for 1-year contracts and 78 percent opted for multi-year contracts.

The Surgeon General approved the utilization of Active Duty Health Professions Loan Repayment as an accession tool to assist U.S. Army Recruiting Command (USAREC) in meeting their recruitment mission for Physician's Assistants in fiscal year 2006. This will be the first year that USAREC has been tasked to directly recruit Physician's Assistants. Anecdotal evidence suggests that the ability to offer recent graduates from civilian Physician's Assistants programs the opportunity to have the Army assist in the repayment of their educational loans will make a difference in their propensity to serve. This is a new program for this group; however it has proven to be very successful with Pharmacy officers and Registered Nurses in the past.

Finally, USAREC signed a contract with Merritt Hawkins in June 2005 for a 6-month trial period to recruit Army Reserve Physicians. Merritt Hawkins is the top-ranked civilian Healthcare Professional recruiting firm in the country. The trial period is to run from July to December 2005.

#### ANTHRAX VACCINATIONS

*Question.* During the height of the Iraq invasion, concern, and more specifically controversy, surrounded vaccinating our armed forces for anthrax. This debate has not died down. The FDA has reported that there are over 50 side effects to the anthrax vaccination, and this is taking into account that former FDA Director David Kessler has stated that only 10 percent of reactions ever get reported. In 1998 the former Secretary of the Army Luis Caldera acknowledged the anthrax vaccine was linked to "unusually hazardous risks." There have been documented cases of DOD continuing shots after major reactions, which violates vaccine instruction and documented cases of DOD administering shots from expired lots. Further, Senate Report 103-97 stated that the vaccine has still not been eliminated as a cause of the Gulf War Syndrome. In the past 5 years, thousands of cases of adverse reactions, causing serious health problems, have been linked to the anthrax vaccine. Several soldiers have even died from the shots. In light of the inherent risks in the program, I would appreciate hearing the panels' views as to why are we still mandating that our servicemembers receive these shots?

*Answer.* Anthrax spores can kill or incapacitate American troops if used against us as a weapon. It is clearly in the best interests of our troops to use the only round-the-clock protection available against this lethal threat. The sudden deaths from inhalation anthrax among U.S. Postal Workers and other Americans during the fall 2001 anthrax attacks on Senator Daschle and Senator Leahy and other targets demonstrate how easy it is for people to breath in anthrax spores without realizing they have been exposed.

In April 2002, the National Academy of Sciences (NAS) released a Congressionally commissioned report that reviewed all available scientific evidence and heard from people concerned about anthrax vaccine. The National Academy of Sciences then concluded that the anthrax vaccine licensed by the Food and Drug Administration protects against all forms of anthrax and is as safe as other vaccines.



While some individuals have expressed concern about anthrax vaccine, a detailed analysis of 34 peer-reviewed medical journal articles shows that people vaccinated or unvaccinated against anthrax have the same health experiences. It is well recognized that minor temporary side effects are underreported (which is the point Dr. Kessler was making); however, serious adverse events are reported, especially in a well-monitored integrated health system, such as the Military Health System.

With reference to adverse events, Defense policy requires anyone who presents to medical personnel with a significant adverse health condition after receiving any vaccination (e.g., anthrax, smallpox, typhoid) to be evaluated by a physician to provide all necessary care for that event. The physician must determine whether further doses of that vaccine should be given, delayed, or a medical exemption—either temporary or permanent—be granted. Military medical personnel are trained how to manage perceived or actual adverse events after vaccination with any vaccine.

As of July 2005, anthrax vaccinations are voluntary, under an Emergency Use Authorization issued by the Food and Drug Administration.

As for links between anthrax vaccinations and illnesses among Gulf War veterans, two publications by the civilian Anthrax Vaccine Expert Committee concluded that multi-symptom syndromes among some veterans of the Persian Gulf War were not reported more often among anthrax vaccines than expected by chance. As explained in these articles, the vast majority of adverse-event reports involve temporary symptoms that resolve on their own. While one death has been classified as “possibly” related to a set of vaccinations, these civilian physicians did not attribute other reported deaths to anthrax vaccination.

Secretary Caldera’s actions are quoted out of context. His finding related to the risks to the manufacturing enterprise (the only manufacturer licensed by the Food and Drug Administration to produce anthrax vaccine) if the manufacturer was subjected to multiple lawsuits. He was not referring to the risks of the vaccine itself. In a Congressionally commissioned report, the National Academy of Sciences concluded in April 2002 that anthrax vaccine is as safe as other vaccines.

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#### QUESTIONS SUBMITTED BY SENATOR DANIEL K. INOUE

##### SUICIDE PREVENTION

*Question.* What is the process for assuring our troops and their leadership are well trained in suicide prevention and intervention protocols as they relate to both the peacetime and wartime missions?

*Answer.* Suicide prevention is a Commander’s program. The proponent for the program to include training is Army G-1. In general, Army units typically have an annual requirement to conduct suicide prevention training. This is usually conducted by installation Chaplains or Behavioral Health personnel. Many units and installations sponsor Applied Suicide Intervention Training (ASIST) that provides specific intervention skills to noncommissioned officer leadership and selected Soldiers. Formal investigations are done after every active duty suicide focusing on lessons learned and prevention. Additional training is also provided to support agency staff, including Chaplains and healthcare providers, on how to identify signs of suicide and how to effectively screen and intervene with service members who are having suicidal thoughts. Leaders, both officer and non-commissioned officers, receive training on how to take care of their troops in the area of suicide.

##### HEALTH ASSESSMENTS

*Question.* How does the AMEDD determine if soldiers are both psychologically and physically healthy enough to be deployed? What improvements should be made in the current pre-deployment evaluation?

*Answer.* The Pre-Deployment Health Assessments (DD 2795) falls within the overall framework of Force Health Protection, which provides comprehensive health surveillance. All Soldiers identified as having psychological and/or physical health related concerns are screened by medical personnel for further evaluation. Medical personnel make recommendations to Commanders concerning whether or not Soldiers are healthy enough for deployment. Identifying Soldiers who are at risk for physical injury before deployment is an area for improvement in pre-deployment evaluation. In addition, an annual preventive health assessment has been developed and will be fielded in the coming year. This annual requirement specifically includes assessment of domains relevant to medical readiness, both physical and psychological. The implementation of this annual assessment will help to maintain the health of our troops across the deployment cycle, not just immediately before.

## QUESTIONS SUBMITTED BY SENATOR PATRICK J. LEAHY

*Question.* You have been working for four years with congressional support to develop a robust, mobile hospital solution to replace the Deployable Medical Systems you've had in place for nearly thirty years now. With the research and development phase of this work now near its end, is it not time to move this effort to the next stage and develop a procurement program for these hard-shelled, mobile hospital units?

*Answer.* The research and development phase has not been completed for hard wall shelters. In fact, the Army only recently received just one set of first prototype shelters with the most recent being provide in the spring of this year. Though the shelters exhibit promise, there are some shortcomings from our initial review and have yet to gather the most meaningful data, operational user tests. At this moment, there are two competing designs at work with an expected down select in the late fiscal year 2006, early fiscal year 2007 timeframe. We anticipate that the Army will find separate technologies within each prototype system that has value and will compete a requirement that builds upon combined characteristics. At present, the further developmental and procurement quantities have been programmed as requirements into our budget, but higher priority requirements preclude its funding at this point in time.

## COMPOSITE HEALTH CARE SYSTEM

*Question.* I have followed the evolution of CHCS II and Tricare Online with interest, and it strikes me that there is a confluence of maturing technologies that can be leveraged to empower the patient to improve health care quality while reducing health care costs. If Department of Defense servicemembers and beneficiaries are given the ability to securely enter data about themselves and their medical problems into CHCS II via Tricare Online, it will solve a huge problem facing the military health system, namely how to get standardized clinical information into the medical record without using expensive and scarce medical personnel. Physicians would get better information about their patients, and patients would get immediate guidance from the tools mounted on Tricare Online to help them with their problems. I know there are knowledge tools in CHCS II, but I would like each of you to comment on any plans your service has to offer them to beneficiaries on Tricare Online. What are your thoughts about using Tricare Online to help populate subjective clinical information into CHCS II?

*Answer.* The Health Assessment Review Tool (HART) and Personal Health Record (PHR) are two such tools that are projected for a TOL interface with CHCS II. A web-enabled HART is by far the most effective and efficient method of making HART available to all populations (TRICARE Standard, TRICARE Prime, Reserve/National Guard, civilian employees of DOD activities). The successful implementation of this web-enabled functionality is a positive step toward empowering the patient to participate in his or her own health care.

The E-Health Personal Health Record (PHR), accessible via TOL, addresses the Military Health System's (MHS) need for a secure portal for beneficiaries to access their electronic medical record. The MHS is working with commercial organizations and the Veterans Health Administration to define optimal business processes and to develop industry leading functional and technical requirements. This structured response capability is scheduled for deployment in fiscal year 2008, capabilities will allow the patient to review or enter allergies, past medical history and to review test results and other information that must be either posted or verified by the medical staff. This will help to ensure that the information was received by the patient and prevent unnecessary visits to check lab results that were normal.

## QUESTIONS SUBMITTED BY SENATOR BARBARA A. MIKULSKI

## POST TRAUMATIC STRESS DISORDER

*Question.* The New York Times recently reported that an Army study shows that about one in six soldiers in Iraq report symptoms of major depression, serious anxiety or post-traumatic stress disorder, a proportion that some experts believe could eventually climb to one in three, the rate ultimately found in Vietnam veterans. (NY Times, Dec. 16, 2004). (Reference for the above Army study is: New England Journal of Medicine, Vol. 351, No. 1, pg. 13).

According to the Times and the Army report, "through the end of September, the Army had evacuated 885 troops from Iraq for psychiatric reasons, including some who had threatened or tried suicide. But those are only the most extreme cases.

Often, the symptoms of post-traumatic stress disorder do not emerge until months after discharge<sup>3</sup>. (NY Times, Dec. 16, 2004).

The Times also referenced a report by the GAO that found similarly alarming results: "A September report by the Government Accountability Office found that officials at six of seven Veterans Affairs medical facilities surveyed said they 'may not be able to meet' increased demand for treatment of post-traumatic stress disorder." (NY Times, Dec. 16, 2004).

However, despite this well-documented crisis, I am concerned that we are not doing enough to combat PTSD.

In light of these very serious concerns, what is the Department of Defense doing to address well-documented examples of PTSD in our men and women returning from the battlefields of Iraq, Afghanistan and elsewhere?

Answer. The Department of the Army complies with a series of Department of Defense policies which govern the Pre- and Post-Deployment Health Assessment process. A February 2002 Joint Staff Policy details the procedures for Deployment Health Surveillance and Readiness. The Pre- and Post-Deployment Health Assessments (DD 2795 and DD 2796) are designed to provide comprehensive health surveillance for service members affected by deployments. The overarching goal of the Army is to provide countermeasures against potential health and environmental hazards to include Post Traumatic Stress Disorder (PTSD) for optimal protection to our troops. Early detection and management of all deployment-related health concerns, including PTSD, can reduce long-term negative health consequences and improve the quality of life for those with deployment concerns. All Soldier's identified with PTSD and/or other mental health symptoms are referred to mental health providers for further evaluation and follow-up. The Post-Deployment Health Assessment provides ongoing identification and management of later emerging deployment health concerns. Copies of all Pre- and Post-Deployment forms are kept in a central database at the U.S. Army Medical Surveillance Activity.

This system of identification and treatment is being further enhanced through implementation of a Post-Deployment Health Reassessment to be conducted at the 3-6 month period after service members return from an operational deployment. This program will provide an opportunity for identification and treatment of health concerns, including mental health concerns, that emerge over time. In addition, DOD and VA have also collaborated in the development and dissemination of an evidence-based clinical practice guideline for identification and treatment of acute stress and PTSD in both primary care and specialty mental health care settings. The guideline supports the Post Deployment Health Evaluation and Management Clinical Practice Guideline that was fielded for mandatory implementation in every military primary care clinic in 2003. Because PTSD is not the only mental health concern resulting from deployment and because PTSD is often related to physical health symptoms, additional guidelines have been developed and disseminated throughout the military health system to include a DOD/VA Clinical Practice Guideline for Major Depression, Substance Use Disorder, and Ill-defined conditions and concerns.

*Question.* Are clinical trials being conducted in conjunction with our nation's pharmaceutical industry?

Answer. The Army Medical Department is not currently conducting clinical trials in conjunction with the pharmaceutical industry.

*Question.* Is the Department aware that there exists a not-for-profit organization in Maryland that is committed to pulling together all developing new technologies for the treatment of PTSD?

Answer. The Army is aware that the Department of Defense, in collaboration with the Department of Veteran's Affairs, has contracted with the Samueli Institute for Information Biology (SIIB) to conduct the program entitled Integrative Healing Practices for Veterans (VET HEAL). SIIB is a non-profit, non-affiliated medical research organization, based in Maryland, supporting the scientific investigation of healing processes with Information Biology and its application in health and disease.

*Question.* What is the Department doing to identify these and other innovative approaches to the treatment of PTSD?

Answer. The Army Medical Department, in conjunction with the Department of Defense and the members of the National Center for PTSD partnered to develop The Iraq War Clinician Guide, which is now in its second edition (June 2004). This guide was developed specifically for clinicians and addresses the unique needs of veterans of the Iraq war. Topics include information about the management of PTSD in the primary care setting, caring for veterans who have been sexually assaulted, and the unique psychological needs of the amputee patient. Similarly, the Veterans Health Administration and the military services developed the VA/DOD clinical practice guideline for the management of post-traumatic stress. In addition,

the Department of Defense has partnered with the Department of Veterans Affairs to conduct two randomized clinical trials, including one focused on effective treatment for military women and one focused on prevention and education for early intervention through a technology enhanced program called DESTRESS. These studies aid us in ensuring our treatments are the most effective they can be and they are provided at the appropriate time. DOD and VA have also collaborated in the development and dissemination of an evidence-based clinical practice guideline for identification and treatment of acute stress and PTSD in both primary care and specialty mental health care settings. The guideline supports the Post Deployment Health Evaluation and Management Clinical Practice Guideline that was fielded for mandatory implementation in every military primary care clinic in 2003.

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QUESTIONS SUBMITTED TO VICE ADMIRAL DONALD C. ARTHUR

QUESTIONS SUBMITTED BY SENATOR TED STEVENS

SUPPORTING TRANSFORMATION

*Question.* Would each of you please describe some of the new technologies and tactics that have proven most effective in caring for our front line troops?

Answer. The Navy is involved in the following projects and programs to care for our front line troops:

- The introduction of Body Armor, the Forward Resuscitative Surgical System, and reduced evacuation times has had a substantial impact in reducing members killed in action (KIA) compared to prior conflicts.
- The introduction of Quikclot for controlling hemorrhage.
- Fielding of a Patient Tracking Device in OIF and OEF, the Tactical Medical Coordination System (TacMedCS).
- Combat Trauma Registry (CTR). This registry has made a major contribution to understanding of casualties. Data summarized from the CTR forms have been used in theater to provide medical situation updates. The CTR is being used for ongoing studies and analyses which include: head, neck and face injury study, extremity injury study, and shunt efficacy study.
- Field Oxygen Concentration Units, reducing need for cylinders.
- EnRoute Care System—the supplies, equipment and personnel available to use any mobility platform to transport critically injured casualties.
- Improved Medical Diagnostic Capabilities in Field of Operations: Digital Radiography.
- Individual First Aid Kit (IFAK), (including tourniquets and advanced compression dressings for self and buddy aid).
- Improved First Responder Aid Bag.
- OSCAR (Operational Stress Control and Relief) to Reduce Combat Stress.
- New Seats Installed in the Small Special Operations Boats (should reduce injuries to operating personnel through greater shock absorption).
- Use of a Centralized Computer System to Collect Heat Stress Data on Ships (should reduce the incidence of heat injury and reduce work load. Also has land-based applications).
- Improved Methods of Rapidly Gathering and Assessing Lessons Learned Data from ongoing experiences linkage to off-the-shelf solutions/ideas for providing care to front line troops.

The Marine Corps has introduced new technologies and tactics to improve first responder care, resuscitative surgery, and patient evacuation with enroute care.

- First responder care. Marines from I MEF and II MEF have received Combat Lifesaver Training to enhance their ability to provide self-aid and buddy aid. These Marines also received a new Individual First Aid Kit (IFAK) to improve their ability to stop life-threatening bleeding. The new IFAK includes a hemostatic agent (QuikClot), a new tourniquet, and improved battle dressings.
- Resuscitative Surgery. The Marine Corps has successfully used the Forward Resuscitative Surgery System (FRSS) to provide life-saving surgery far forward on the battlefield. The FRSS has demonstrated the potential of far forward resuscitative surgery to reduce battlefield mortality among the most seriously wounded.
- Patient evacuation with Enroute Care. The Marine Corps has also successfully used specially trained nurses and hospital corpsmen to provide enroute care during the evacuation of critically injured casualties onboard its helicopters. Providing enroute care for these critically injured casualties has contributed to reducing battlefield mortality.

*Question.* What tools and equipment are still required to improve the care provide to combat casualties?

*Answer.* While the number of Killed in Action has been greatly reduced by the aforementioned capabilities. Much work is need now for those who are wounded in action.

- Improved Body Armor for extremities.
- Treatments to prevent/treat blast trauma and long term neurological deficits resulting from exposure to blast.
- Research on Combat and Operational Stress to include enhanced research on Mental Health and Post Traumatic Stress (PTSD).
- Blood substitutes and improved resuscitation strategies.
- Technologies to stop internal hemorrhage.
- Technologies to sustain life support and reduce logistical burden during delayed/prolonged evacuation.
- Technologies to treat brain injury.
- Technologies to improve limb and organ viability from trauma.
- Microbiology of blast and bullet injuries in returning troops.
- Research on Musculoskeletal Injuries (including epidemiology, prevention, and footwear).
- Research on Effectiveness of Current Body Armor (i.e., how many casualties prevented).
- Research on the Causes and Prevention of Motor Vehicle Accidents (almost 10 percent of casualties resulting from hostile enemy action were due to motor vehicle accidents).
- Improved Medical Diagnostic Capabilities in Field of operations.
- Improved Bioenvironmental Tools for Operational Risk Management and Deployment of Medical Resources and Identification of Routes of Evacuation.
- Research on the Impact of Multiple Stressors (Noise, Heat, Chemical Exposure, etc.) on Recuperation of Casualties.
- Development of Antioxidant Treatment Protocols for Laser Eye Injuries.
- The Submarine Force Needs Better Casualty Movement and Evacuation Equipment for casualty transfer and MEDEVAC. Currently available stretchers and evacuation equipment do not permit rapid movement of casualties in and out of the tight confines of submarines.
- Anti-Hypothermia Warming Blankets.
- Improved Non-Performance Degrading Analgesia.
- Improved Means for Combat Medic Training.
- Easy to Use Vascular Shunts for Limb Salvage.
- Research on Use of Antioxidant Supplementation for Performance Enhancement and Rehabilitation.
- Research on Development of Back Packs to Transfer Load Carriage From the Shoulders to the Hips to Reduce Injuries.
- Research to Reduce Concussive Injury from Blast and Bullet Strikes to the Head.

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QUESTION SUBMITTED BY SENATOR RICHARD C. SHELBY

#### ANTHRAX VACCINE

*Question.* During the height of the Iraq invasion, concern, and more specifically controversy, surrounded vaccinating our armed forces for Anthrax. This debate has not died down. The FDA has reported that there are over 50 side effects to the Anthrax vaccination, and this is taking into account that former FDA Director David Kessler has stated that only 10 percent of reactions ever get reported. In 1998 the former Secretary of the Army Luis Caldera acknowledged the Anthrax vaccine was linked to “unusually hazardous risks.” There have been documented cases of DOD continuing shots after major reactions, which violates vaccine instruction and documented cases of DOD administering shots from expired lots. Further, Senate Report 103–97 stated that the vaccine has still not been eliminated as a cause of the Gulf War Syndrome. In the past 5 years, thousands of cases of adverse reactions, causing serious health problems, have been linked to the Anthrax vaccine. Several soldiers have even died from the shots. In light of the inherent risks in the program, I would appreciate hearing the panels’ views as to why are we still mandating that our service members receive these shots?

*Answer.* DOD’s mandatory Anthrax Vaccine Immunization Program is currently on a court-ordered pause. We are offering the Anthrax vaccine to personnel in high threat areas under an Emergency Use Authorization.

Anthrax is the #1 threat on the Joint Chiefs bioweapon threat list. Anthrax spores make lethal weapons that can be easily disseminated through non-traditional means. This was demonstrated in the 2001 Anthrax attacks, which killed several U.S. Postal Employees. Reports continue to be published in newspapers about the attack's infected survivors and their persistent health consequences. During the Anthrax attacks, city hospitals had only one or two patients requiring extensive and lengthy treatment for their illness. In a widespread attack, the number of patients requiring hospitalization would overwhelm the medical infrastructure. The Department of Defense uses Anthrax vaccine to ensure service members are protected against an attack using Anthrax.

Over 1.3 million service members have been protected against Anthrax spores since March 1998. While some individuals have expressed concern about Anthrax vaccine, a detailed review of 34 peer-reviewed medical journal articles shows that people vaccinated or unvaccinated against Anthrax have similar health experiences. In 2002, the National Academy of Sciences published a congressionally commissioned report that concluded Anthrax vaccine has a side-effect profile similar to that of other vaccines licensed by the Food and Drug Administration [[www.iom.edu/Object.File/Master/4/150/0.pdf](http://www.iom.edu/Object.File/Master/4/150/0.pdf)]. DOD policy requires that anyone who develops adverse health conditions after any vaccination be evaluated by a physician. This policy also specifies that all necessary care be provided and that a determination be made as to whether further doses of that vaccine are indicated. It is well recognized that minor temporary side effects are underreported, which is the point Dr. Kessler was making. Serious adverse events are much more likely to be reported, especially in a well-monitored integrated health system, such as the Military Health System.

The civilian Anthrax Vaccine Expert Committee (AVEC) issued two publications regarding adverse vaccine events that occurred from 1998–2001 with respect to multi-symptom syndrome (MSS) described by some veterans of the Persian Gulf war. The panel found no evidence of a pattern of MSS after Anthrax vaccination. As explained in these publications, the vast majority of vaccine adverse-event reports involve temporary symptoms that resolve on their own.

DOD reviews death reports after any vaccination very carefully. One death of a DOD service member has been classified as “possibly” related to the receipt of multiple (Anthrax, Smallpox and others) immunizations. The civilian physicians on AVEC evaluated other deaths and did not attribute them to Anthrax vaccination.

The question for the record misstates the former Secretary of the Army's position, which was the business situation posed an unusually hazardous risk for BioPort Corporation as a small vaccine manufacturer.

At no time has anyone shipped expired lots or vials of Anthrax vaccine to any military facilities. However in an isolated case, Anthrax vaccine from vials a few weeks beyond their potency dating was inadvertently administered. This 1999 incident was thoroughly investigated and correct vaccine management procedures were re-emphasized to prevent future incidents.

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QUESTION SUBMITTED BY SENATOR PATRICK J. LEAHY

#### CHCS II

*Question.* I have followed the evolution of CHCS II and TRICARE Online with interest, and it strikes me that there is a confluence of maturing technologies that can be leveraged to empower the patient to improve health care quality while reducing health care costs. If Department of Defense service members and beneficiaries are given the ability to securely enter data about themselves and their medical problems into CHCS II via TRICARE Online, it will solve a huge problem facing the military health system, namely how to get standardized clinical information into the medical record without using expensive and scarce medical personnel. Physicians would get better information about their patients, and patients would get immediate guidance from the tools mounted on TRICARE Online to help them with their problems. I know there are knowledge tools in CHCS II, but I would like each of you to comment on any plans your service has to offer them to beneficiaries on TRICARE Online. What are your thoughts about using TRICARE Online to help populate subjective clinical information into CHCS II?

*Answer.* TRICARE Online (TOL) has the potential to provide our beneficiaries the ability to convey information about their health status and concerns to providers. Our vision is in line with this goal, a clinical intervention tool informing beneficiaries, Primary Care Managers (PCMs), and Military Treatment Facility (MTF) administrators about required preventive services, health risk factors, chronic disease history, and health status. This tool assists the MHS at the Enterprise, Serv-

ice, TRICARE Region and MTF level with population health management by providing estimates of the health needs and health status of the enrolled and non-enrolled TRICARE populations. Currently in development are the appropriate screening tools and alert functionality to mitigate the medical-legal risk of not being able to respond to a concern “real-time” while empowering beneficiaries to enter historical and screening information at their own pace. This information will be saved to the Clinical Data Repository making the data accessible via CHCS II.

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QUESTIONS SUBMITTED BY SENATOR BARBARA A. MIKULSKI

MENTAL HEALTH AND POST TRAUMATIC STRESS DISORDER

*Question.* The major mental health problem being faced by the returning veteran is Post Traumatic Stress Disorder (PTSD).

The New York Times recently reported that an Army study shows that about one in six soldiers in Iraq reports symptoms of major depression, serious anxiety or post-traumatic stress disorder, a proportion that some experts believe could eventually climb to one in three, the rate ultimately found in Vietnam veterans (NY Times, Dec. 16, 2004) (Reference for the above Army study is: New England Journal of Medicine, Vol. 351, No. 1, pg. 13).

According to the Times and the Army report, “through the end of September, the Army had evacuated 885 troops from Iraq for psychiatric reasons, including some who had threatened or tried suicide. But those are only the most extreme cases. Often, the symptoms of post-traumatic stress disorder do not emerge until months after discharge.” (NY Times, Dec. 16, 2004).

The Times also referenced a report by the GAO that found similarly alarming results: “A September report by the Government Accountability Office found that officials at six of seven Veterans Affairs medical facilities surveyed said they ‘may not be able to meet’ increased demand for treatment of post-traumatic stress disorder.” (NY Times, Dec. 16, 2004).

However, despite this well-documented crisis, I am concerned that we are not doing enough to combat PTSD.

In light of these very serious concerns, what is the Department of Defense doing to address well-documented examples of PTSD in our men and women returning from the battlefields of Iraq, Afghanistan and elsewhere?

*Answer.* Navy medicine is directly involved in the management of PTSD both on the battlefield and at home. Last year, we initiated our Operational Stress Control and Readiness (OSCAR) Project with the U.S. Marine Corps. This project places mental health assets directly with Marine Corps fighting units, and those mental health providers stay with the unit both during the period of deployment and in garrison. Thus, our Marine Corps mental health providers are truly organic assets to the Marine divisions. Likewise, we have psychologists stationed aboard each aircraft carrier in the Navy to provide direct services to deployed service members. Following on the highly successful example of our shipboard psychologists, we have deployed psychologists and psychiatrists with Expeditionary Strike Groups (ESGs) to provide similar services to detachments of Marines and other service members being transported via ESGs.

*Question.* Are clinical trials being conducted in conjunction with our nation’s pharmaceutical industry?

*Answer.* Medical Departments of the uniformed services do not work directly with pharmaceutical manufacturers as we are legally proscribed from doing so. However, under the auspices of the Henry M. Jackson Foundation, military researchers may participate as investigators in clinical trials with various sources of funding. Military medical personnel, both at the Uniformed Services University and at our teaching hospitals, may devise and submit for approval through appropriate institutional review boards clinical studies that involve post-traumatic stress disorder and other conditions. Several joint projects with the VA are presently ongoing, including a study at Naval Medical Center San Diego of virtual reality technology to assist patients with PTSD.

*Question.* Is the Department aware that there exists a not-for-profit organization in Maryland that is committed to pulling together all developing new technologies for the treatment of PTSD?

*Answer.* Yes. Several not-for-profit organizations exist in the State of Maryland that can and have in the past provided expert assistance to the DOD in its efforts to understand PTSD and ameliorate its effects. For instance, trainers from the International Critical Incident Stress Foundation, in Ellicott City, routinely provide training in critical incident stress debriefing gratis to military mental health pro-

viders and military first responders. The Maryland Psychological Association has offered the services of its members to family members of servicemen and women who may be suffering from the effects of combat stress or related disorders. Additionally, the Maryland Psychological Association partners with the American Red Cross to train its members in disaster response. The services take advantage of the expertise of faculty at the Uniformed Services University in Bethesda who are world renowned experts in the study of combat stress and related disorders, we apply their research findings in our clinical practice to better serve active duty members and their families. We also work closely with other agencies, both in the federal and private sector, such as the VA's National Centers for PTSD, to identify sources of expertise in the management of stress and apply findings to our service members.

*Question.* What is the Department doing to identify these and other innovative approaches to the treatment of PTSD?

*Answer.* Navy medical resources are intensely involved in the study of innovative treatment strategies for PTSD. We work closely with our colleagues in the VA and at the Uniformed Services University, as well as various private and publicly funded institutions of higher education, to educate our providers regarding most effective treatments. In addition to collaboration in research endeavors as mentioned above, we have jointly produced with the VA a number of Clinical Practice Guidelines, including guidelines for the management of acute and chronic stress, depression, and other disorders. We co-sponsor conferences for our clinicians and decision makers regarding the management of PTSD, and are involved in a number of joint working groups designed to create a true continuum of mental health care for our active duty, disabled, and retired service members.

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#### QUESTIONS SUBMITTED TO LIEUTENANT GENERAL GEORGE PEACH TAYLOR, JR.

##### QUESTIONS SUBMITTED BY SENATOR TED STEVENS

##### SUPPORTING TRANSFORMATION

*Question.* Would each of you please describe some of the new technologies and tactics that have proven most effective in caring for our front line troops?

*Answer.* The Air Force Medical Service has clearly played a tremendous role in the delivery of health care to our front line troops. To open, let me say that prevention has proven to be enormously successful in preventing injury and providing superb safe environments for our personnel. Our deployed Preventive Medicine Teams have provided direct preventive medicine support to military personnel throughout Operation Iraqi Freedom, providing such resources as occupational and environmental health surveillance, environmental health programs, field sanitation training, disease and non-battle injury prevention, health risk assessments, and medical force protection.

The lighter, leaner footprint of Air Force medical resources has been extremely effective in providing a consistent clinical capability to the Combatant Commander and warfighter. The hard work accomplished with focus on interoperability in capability was proven a success during the transition from the Army Combat Support Hospital to the Air Force Expeditionary Medical System this past fall. Shortly after that transition, the vast majority of casualties from the battle of Fallujah were received and cared for at that very same facility. The dedication and teamwork of our Army and Air Force medics ensured seamless medical care, timely evacuation, and lifesaving care to the injured warfighter.

In December of 2004, the Assistant Secretary of Defense (Health Affairs) directed the Services to implement the Joint Theater Trauma Registry. Air Force clinicians played a tremendous role in the development of the first Joint Theater Trauma System (JTTS). Modeled after the successes of the civilian sector, the JTTS keeps us at the cutting edge, bringing the skills of trauma centers to the battlefield. The goal is to provide a system for routing casualties to destinations that are best able to provide the required care: "The Right patient, to the Right place, at the Right time."

The employment of critical care capability during aeromedical transport and the role of evidence-based medical innovations have also been important. Our community has been aggressive in meeting the needs of the aeromedically evacuated critical care patients through implementation of new technology for intra-cranial pressure monitoring ensuring the safe transport of patients with head trauma, as well as the latest in pain management using the non-electronic Stryker Pain Pump. Additionally, the move to universally qualify aeromedical evacuation crew has further ensured the safe passage of our sick and injured.



The Air Force Medical Service clearly plays a critical role in the delivery of health care to our front line troops. It has only been through the collaborative efforts between the medical and operations communities, multi-service and multi-national forces abroad that our delivery of health care during the most challenging of contingencies has become the best in the world.

*Question.* What tools and equipment are still required to improve the care provided to combat casualties?

*Answer.* Our medical forces are doing tremendous work in the delivery of health care to our front line troops and their experience provides us with valuable lessons learned. These lessons learned deal primarily with the tools and equipment still required to improve the care provided to combat casualties. Based on lessons learned, we still need solutions for the following requirements to provide the best combat casualty care possible. I would be happy to discuss these with you at your convenience in greater detail.

**Rapid diagnostics capabilities for deployed and homeland stationed medics:** This shortfall includes deployment of systems similar to Epidemiology Outbreak Surveillance to rapidly diagnose emerging threats, as they happen to give commanders the information they need to preserve the fighting force through prevention and prophylaxis.

**Near real-time medical surveillance or environmental factors to include water sources:** This capability enables monitoring of sources to allay the damage or illness from weapons of mass destruction.

**Water and Intravenous purification:** Exploitation of current technology trends to allow on-site water purification to two standards, potable and infusion quality. This capability dramatically decreases the pallet space and logistical footprint needed to provide water to troops.

**Oxygenation capabilities integrated with Aeromedical Evacuation and Expeditionary Medical Support:** There is an increasing need for deployed medical personnel to provide their own oxygen.

**Acute care and local extracorporeal membrane oxygenation to facilitate stabilization for transport of critically injured patients.**

**Instant reach-back communications for facilitation of inter-service patient care coordination:** There are considerable shortfalls in interoperability for rapid communication leading to delays in treatment, transport and communication of care rendered.

**Blood substitutes** are needed to not only expand the fluid volume of injured patients but to also include increased oxygen carrying capability that standard volume expanders lack.

**Medical Scancorder development** must be accomplished so that Soldiers and Airmen can be monitored for instability of vital signs/hemodynamics before they experience symptoms.

**Portable anesthesia** is now limited by respirator availability or intravenous access; stable, simple and effective anesthesia devices are needed to allow humane and safe anesthesia to injured patients.

**Patient controlled anesthesia** is the standard of care: This standard is not currently met by most equipment/personnel medical support packages deployed and on modes of transportation available for evacuation.

**Trauma registry information** as required by DOD Health Affairs Policy #04-031: Non-technological solutions are being used, which hinders the evacuation and medical care of injured Soldiers and Airmen.

Despite the challenges we face, it is my privilege to share successes of improved combat casualty. The proud men and women of the Air Force Medical Service have recently fielded Telehealth initiatives within the CENTCOM Area of Responsibility (AOR), which provide reach-back via Telehealth consultations and Teleradiology. We have also provided telephonic FAX capabilities for asynchronous reach-back consultations. Pumpless extra-corporeal lung assist has been used to evacuate critically ill patients that formerly would have been too unstable to transport. And, based on the most recent recommendations from our surgeons who have seen large numbers of severe orthopedic injuries, the addition of pneumatic tourniquet systems for extremity surgery, and compartment pressure monitors to diagnose limb-threatening compartment syndrome are examples of improve combat care to our front line troops. However, there are more tools needed to achieve improved treatment outcomes based largely on lessons learned from the AOR.

The management of shock is probably the most basic element of trauma care. The replacement of fluid, administration of blood products, and maintenance of the body at normal temperature are all key to this lifesaving process. The thromboelastography (TEG®) analyzer is a powerful clinical monitor to evaluate the interaction of platelets and plasma factors, plus any additional effects of other cel-

lular elements (e.g., WBCs, RBCs). To guide administration of blood products, TEG® has been recommended by our trauma surgeons, as the analysis provided by this tool would clearly benefit the management of our critically injured casualties. Forced-air warming therapy has become the standard choice for preventing hypothermia. Maintaining patient normothermia is proven to reduce increased complications for the post-operative patient as well as the massive trauma patient. The Bair Hugger® temperature management devices, such as the warming blanket and warming units, are those being specifically recommended for addition to the deployed inventory.

There is currently discussion underway about having basic diagnostic cardiology in theater, such as a treadmill and echocardiogram capability. We are working with the Army and Navy, analyzing the benefits of accomplishing basic stress testing in theater, prior to evacuation, with the increased chance of returning more troops back to their unit rather than being evacuated to Landstuhl, Germany.

Also critical to the effective management of patients is the continuity of information transfer. As casualties travel from the battlefield and through the military health care system, clinicians are known for writing on the dressings of casualties to ensure critical information goes with the patient and is readily accessible by all that will care for the casualty along the way. Use of the Battlefield Medical Information System, "BMIST," has been initiated. This wireless electronic information carrier has been successful; however, the challenge has been to ensure that every field medic is issued the hand-held element so they can complete the casualty's electronic record on-site and be able to "beam" or give it on a memory chip to the air ambulance or aeromedical evacuation crew who can take it with the casualty on to their final destination.

Finally, the challenges of communication between the multiple Service medical assets have unfortunately continued through the years. There is a wide array of communications tools and equipment among the different Services, each fulfilling their own requirements, but unfortunately most often not linking with the sister Services. While there are numerous initiatives underway addressing this very issue at the Joint and individual Service level, the critical key, as with every initiative regarding the management and care of our forces, is to ensure integration of these efforts.

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#### QUESTION SUBMITTED BY SENATOR PETE V. DOMENICI

##### ACCESS TO MENTAL HEALTH SERVICES

*Question.* I understand from your statements that you are diligently pursuing incidences of mental health issues such as depression, anxiety and post-traumatic stress disorder. I commend you for that. It is my understanding that to date the Department of Defense has done a good job reaching out to soldiers upon their return.

My concern is for mental health services for rural Guard and Air Guard members in particular. Those Guardsmen in places like Springer, New Mexico are far from metropolitan areas and do not have access following demobilization to military mental treatment facilities with mental health services.

I understand that this rural demographic is a small portion of your total population, but do you share my concerns about mental health access for rural Guard and Reserve members and if so can you give me your thoughts on how we might best address this issue?

*Answer.* Our best efforts address the concern by requiring all redeploying members to receive a medical screening to include mental health conditions by completing DD Form 2796, Post-Deployment Health Assessment prior to theater departure or within five days upon return to home station. This screening provides the first sign of the need for additional health care and prompt access to care within our Military Healthcare System.

To aid continuity of care and address health conditions frequently identified several months following redeployment, Assistant Secretary of Defense (Health Affairs) recently announced an extension of the deployment health screening process projected to start June 10, 2005. Post-Deployment Health Reassessment will involve each member completing an additional health screening form three to six months following redeployment to specifically address mental and other health concerns. The member's responses in coordination with a healthcare provider's review will determine the need for additional care, which may then be obtained through TRICARE health system referral or through the Veterans Health Administration. Additional sources of care for mental health concerns in rural areas may include the local department of public health and safety and military Family Assistance Cen-

ters. In the National Guard, the Adjutant General determines the need and location of the Family Assistance Center in support of deployment activities, and the State Family Program Coordinator is the point of contact.

Of note, Veterans who serve in a theater of combat operations during war are eligible for care for two years from their date of active duty discharge provided they first enroll in the Veterans Health Administration. Access to Veterans Health Administration-sponsored care is visible at: <http://www1.va.gov/directory/guide/home.asp?isFlash=1>.

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QUESTION SUBMITTED BY SENATOR RICHARD C. SHELBY

ANTHRAX VACCINATION

*Question.* During the height of the Iraq invasion, concern, and more specifically controversy, surrounded vaccinating our armed forces for anthrax. This debate has not died down. The FDA has reported that there are over 50 side effects to the anthrax vaccination, and this is taking into account that former FDA Director David Kessler has stated that only 10 percent of reactions ever get reported. In 1998 the former Secretary of the Army Luis Caldera acknowledged the anthrax vaccine was linked to “unusually hazardous risks.” There have been documented cases of DOD continuing shots after major reactions, which violates vaccine instruction and documented cases of DOD administering shots from expired lots. Further, Senate Report 103–97 stated that the vaccine has still not been eliminated as a cause of the Gulf War Syndrome. In the past 5 years, thousands of cases of adverse reactions, causing serious health problems, have been linked to the anthrax vaccine. Several soldiers have even died from the shots. In light of the inherent risks in the program, I would appreciate hearing the panels’ views as to why are we still mandating that our service members receive these shots?

*Answer.* From the Air Force perspective, the use of anthrax as a bio-weapon poses a significant threat to military operations. The anthrax vaccine is the most effective means available today to protect our forces. Although antibiotics were used following the anthrax attacks in 2001, they provide effective treatment only if exposure is known before symptoms appear. Unfortunately, we do not always have the necessary warning time necessary for antibiotics to work alone. Although we will continue to work to increase warning time of pending/existing attacks, our men and women must be prepared to carry out their duties in defense of this country regardless of circumstances. To that end, the best currently available round-the-clock protection to prepare our forces to counter the threat of anthrax is vaccination. The vaccine provides a critical layer of protection that may be augmented by antibiotics and other measures.

Since March 1998, over 1.3 million DOD personnel have been protected against anthrax exposure. Over 150,000 Air Force personnel—Active, Guard and Reserve—in service today have received the anthrax vaccination. While some individuals have expressed concern about anthrax vaccine, a detailed analysis of 34 peer-reviewed medical journal articles shows that people vaccinated or unvaccinated against anthrax have the same health experiences. In 2002, the National Academy of Sciences published a Congressionally commissioned report that concluded anthrax vaccine has a side-effect profile similar to that of other vaccines licensed by the FDA ([www.iom.edu/Object.File/Master/4/150/0.pdf](http://www.iom.edu/Object.File/Master/4/150/0.pdf)). It is well recognized that minor temporary side effects are underreported (the point Dr. Kessler makes); however, serious adverse events are reported, especially in a well-monitored integrated health system, such as the Military Health System.

In addition, the Air Force—along with the other Services—utilizes the Vaccine Adverse Event Reporting System (VAERS), a national vaccine safety surveillance program co-sponsored by the FDA and the Centers for Disease Control and Prevention. This system collects and analyzes information from reports of adverse events that occur after the administration of all U.S. licensed vaccines. Reports are encouraged from all concerned individuals: patients, parents, health care providers, pharmacists and vaccine manufacturers. All anthrax vaccine recipients receive information via the Anthrax Vaccination Immunization Program trifold brochure and other means on how to access VAERS.

With reference to adverse events, Air Force policy requires anyone who presents to medical personnel with a significant adverse health condition after receiving any vaccination (e.g., anthrax, smallpox, typhoid) to be evaluated by a physician to provide all necessary care for that event. The physician must determine whether further doses of that vaccine should be given, delayed, or a medical exemption—either temporary or permanent—be granted. Air Force medical personnel are trained how

to manage perceived or actual adverse events after vaccination with any vaccine (i.e., how to assess, treat and report).

As for links between anthrax vaccinations and Gulf War Syndrome, two publications by the civilian Anthrax Vaccine Expert Committee concluded that multi-symptom syndromes among some veterans of the Persian Gulf War were not reported more often among anthrax vaccinees than expected by chance. As explained in these articles, the vast majority of adverse-event reports involve temporary symptoms that resolve on their own. While one death has been classified as “possibly” related to a set of vaccinations, these civilian physicians did not attribute other reported deaths to anthrax vaccination in particular.

With respect to expired lots, at no time has anyone shipped expired anthrax vaccine to any military facility. We are, however, aware of one incident involving vaccine from expired vials being administered to approximately 59 Marines at a military Medical Treatment Facility (MTF) in April 1999. That incident involved vaccine that expired after it had been stored on site at the medical treatment facility—it was not expired at the time of shipment. Corrective measures have been implemented to prevent a reoccurrence. For example, the handling procedures for vaccines were changed to ensure that, upon receipt by the MTF, the lot number and expiration of all vials of vaccine in the shipment are recorded. Also, the Distribution Operation Center at the United States Army Medical Materiel Agency issues a message to all Service Logistic Centers to pre-alert them to when any anthrax vaccine lot is about to expire. This message ensures all anthrax vaccine is used prior to expiration, and aids in the prevention of a reoccurrence of the situation encountered by the Marines.

All information concerning this expired-vaccine incident was forwarded to the Armed Forces Epidemiological Board (AFEB), an independent, nationally recognized group of civilian scientific experts that advises the DOD on the prevention of disease and injury and the promotion of health.

After reviewing the details of the incident, the AFEB concluded that the expired vaccine administered to the Marines posed little or no safety risk and any decrement in potency of the expired vaccine would be minimal and clinically irrelevant.

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QUESTION SUBMITTED BY SENATOR PATRICK J. LEAHY

CHCSII AND TRICARE ONLINE

*Question.* I have followed the evolution of CHCS II and TRICARE Online with interest, and it strikes me that there is a confluence of maturing technologies that can be leveraged to empower the patient to improve health care quality while reducing health care costs. If Department of Defense servicemembers and beneficiaries are given the ability to securely enter data about themselves and their medical problems into CHCS II via TRICARE Online, it will solve a huge problem facing the military health system, namely how to get standardized clinical information into the medical record without using expensive and scarce medical personnel. Physicians would get better information about their patients, and patients would get immediate guidance from the tools mounted on TRICARE Online to help them with their problems. I know there are knowledge tools in CHCS II, but I would like each of you to comment on any plans your service has to offer them to beneficiaries on Tricare Online. What are your thoughts about using Tricare Online to help populate subjective clinical information into CHCS II?

*Answer.* Any technology that helps our providers take better care of our patients is worth exploring. As a matter of fact, the TRICARE Medical Authority (TMA) is already working on expanding the ability of beneficiaries to input data directly into CHCS II. The technology is not quite there yet, but TMA has a short-term solution that uses the internet and e-mail to allow patients to communicate directly with their providers. TMA is also working on an internet based Health Insurance Portability and Accountability Act compliant solution involving the movement of patient data from TRICARE Online to the provider via e-mail.

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QUESTIONS SUBMITTED BY SENATOR BARBARA A. MIKULSKI

POST-TRAUMATIC STRESS DISORDER

*Question.* The major mental health problem being faced by the returning veteran is Post Traumatic Stress Disorder (PTSD). The New York Times recently reported that an Army study shows that about one in six soldiers in Iraq report symptoms of major depression, serious anxiety or post-traumatic stress disorder, a proportion

that some experts believe could eventually climb to one in three, the rate ultimately found in Vietnam veterans. (NY Times, Dec. 16, 2004). (Reference for the above Army study is: New England Journal of Medicine, Vol. 351, No. 1, pg. 13).

According to the Times and the Army report, "through the end of September, the Army had evacuated 885 troops from Iraq for psychiatric reasons, including some who had threatened or tried suicide. But those are only the most extreme cases. Often, the symptoms of post-traumatic stress disorder do not emerge until months after discharge". (NY Times, Dec. 16, 2004).

The Times also referenced a report by the GAO that found similarly alarming results: "A September report by the Government Accountability Office found that officials at six of seven Veterans Affairs medical facilities surveyed said they "may not be able to meet" increased demand for treatment of post-traumatic stress disorder." (NY Times, Dec. 16, 2004).

However, despite this well-documented crisis, I am concerned that we are not doing enough to combat PTSD."

In light of these very serious concerns, what is the Department of Defense doing to address well-documented examples of PTSD in our men and women returning from the battlefields of Iraq, Afghanistan and elsewhere?

Answer. The Air Force currently screens all Airmen for PTSD symptoms upon re-deployment. Because PTSD symptoms often emerge over time, the Air Force will begin reassessing Airmen 90–180 days after return from deployment, starting in June 2005. This reassessment screens for PTSD as well as other common mental health related concerns. Any deployer, whether active duty or reserve component, who endorses any psychological symptoms will receive a full evaluation by a healthcare provider, and referred for care when indicated.

While review of post-deployment health assessment data indicate that Air Force deployers face significantly less exposure to traumatic stress than Army and Marine ground combat, the Air Force is nonetheless committed to identifying and treating all deployment related health concerns in an expeditious and thorough manner.

*Question.* Are clinical trials being conducted in conjunction with our nation's pharmaceutical industry?

Answer. The Air Force is not currently involved in clinical drug trials for the treatment of Post Traumatic Stress Disorder (PTSD) due to the very low incidence rate of PTSD within the Air Force.

*Question.* Is the Department aware that there exists a not-for-profit organization in Maryland that is committed to pulling together all developing new technologies for the treatment of PTSD?

Answer. The Air Force relies on the VA/DOD Clinical Practice Guidelines for Post Traumatic Stress Disorder (PTSD) management. We are open and interested in any and all technologies and innovations in the area of PTSD treatment that meet clinical standards of care.

*Question.* What is the Department doing to identify these and other innovative approaches to the treatment of PTSD?

Answer. The Air Force has joined a working group with the other services, the Department of Veterans Affairs, and the National Center for Post Traumatic Stress Disorder (PTSD) to identify state-of-the-art, empirically validated treatment approaches to PTSD.

Our goals are to identify and treat PTSD symptoms as soon as possible, and to ensure continuity of care as Airmen move to new assignments or separate from the Air Force.

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#### QUESTIONS SUBMITTED TO COLONEL BARBARA J. BRUNO

#### QUESTIONS SUBMITTED BY SENATOR TED STEVENS

#### RECRUITING AND RETENTION

*Question.* How does the Uniformed Services University of the Health Sciences support military nursing?

Answer. The Uniformed Services University of the Health Sciences (USUHS) supports military nursing by providing a "signature curriculum" designed to prepare nurses for practice and research in federal health care and military systems. The USUHS Graduate School of Nursing is dedicated to quality education that prepares both advanced practice nurses and nurse scientists with a Ph.D. to deliver care, conduct research and improve services to all military beneficiaries. Programs that are currently offered at USUHS include three Masters level programs; Perioperative

Certified Nurse Specialist, Certified Nurse Anesthetist and Family Nurse Practitioner and a Ph.D. program in Nursing Science.

*Question.* With the current nursing shortage nationwide, and continued need for medical support at home and overseas, what is the status of your recruiting and retention efforts?

*Answer.* The Active Component (AC) Army Nurse Corps (ANC) has a requirement of 365 new officers for fiscal year 2005. As of June 30, 2005, 187 new officers have been commissions and reported for active duty. It is projected that the AC ANC will meet 88 percent (322 of 365) of its accession requirements this year. The Reserve Component (RC) ANC has a requirement of 485 new officers for fiscal year 2005. As of June 30, 2005, 236 new RC ANC officers have been commissioned. U.S. Army Recruiting Command projects that they will achieve 75 percent (366/485) of the RC ANC accession requirements this year.

The ANC recruiting and retention programs are critical to our competitiveness in a tight nursing market. Active and Reserve programs are detailed below. Program gaps include funding a second baccalaureate degree for commissioned officers interested in becoming an Army Nurse and a scholarship program to fund enlisted Reserve Soldiers interested in obtaining a Bachelors of Science in nursing and pursuing a commission as a Reserve ANC officer.

#### *Active Component*

The Health Professions Loan Repayment Program (HPLRP) is a successful recruiting and retention tool for the ANC. HPLRP provides payment of up to \$29,323 toward qualifying educational loans incurred from undergraduate nursing education. Currently, all eligible Active Component ANC officers have been offered the opportunity to participate in HPLRP, either at the time of accession or as a retention incentive, or both. Since its inception in 2003, 272 officers have participated in this program. Thus far in fiscal year 2005, 17 new direct accession AC officers have received HPLRP.

The ANC offers a \$15,000 accession bonus in exchange for a four-year active duty service obligation. This bonus is projected to increase to \$20,000 in fiscal year 2006. Thus far in fiscal year 2005, 15 new AC AN officers have elected this incentive. Officers may also choose to receive an accession bonus and participate in HPLRP. They receive an \$8,000 accession bonus combined with the HPLRP of up to \$29,323 for a six-year active duty service obligation. Thus far in fiscal year 2005, 37 new AC officers have elected to take this option. Nursing scholarships are offered through ROTC, the Army Nurse Candidate Program, and the Enlisted Commissioning Program. Scholarships vary in length from two, three, or four years depending on the program with at least a three year active duty service obligation. ROTC nursing cadets may participate in the Nurse Summer Training Program (NSTP), a three-week internship in which they work with an ANC officer caring for patients. While ROTC has struggled in recent years to meet nurse mission, projections indicate that ROTC will commission the required 175 nurses by fiscal year 2007. This year's projection is for 131 nurses.

The ANC has robust programs for training nurses in specialty areas, which also serve as excellent recruiting and retention tools. Under the Generic Course Guarantee program new officers can choose critical care, perioperative, psychiatric/mental health, or obstetrical/gynecological training. All company grade officers are also eligible to apply to those courses, as well as courses in emergency and community health nursing.

The Long Term Health Education and Training program is a highly successful retention tool for mid-level officers. This program offers the opportunity to obtain a fully funded Masters degree or Doctoral degree. Officers who participate in the program incur at least a four-year active duty service obligation depending on the length of the program. This past year, the U.S. Army Graduate Program in Nurse Anesthesia was ranked second in the nation by U.S. News and World Report.

The ANC also offers specialty pay to nurse anesthetists, nurse practitioners, and certified nurse midwives. This year, the ANC successfully increased the specialty pay for nurse anesthetists for the first time in 10 years. Incentive specialty pay (ISP) is now \$15,000 to \$40,000, depending on their status and length of service agreement. Family nurse practitioners and certified nurse-midwives may also qualify for special pay that ranges from \$2,000 to \$5,000 annually.

The AC ANC centrally manages the deployments of its officers in an effort to ensure equity throughout the organization. In terms of routine assignments, the ANC works aggressively to meet the personal and professional needs of its officers while ensuring both the needs of the Army and the officer are met as much as possible. Direct accessions usually receive one of their top three choices for their first assign-

ment. Additionally, 98 percent of ANC officers married to other Army officers and enrolled in the Army Married Couples Program are co-assigned with their spouse.

#### *Reserve Component*

The HPLRP is available for all for Reserve ANC officers. It provides up to \$50,000 over a three-year period for repayment of educational loans for nurse anesthetists, critical care, psychiatric/mental health, medical-surgical, and perioperative nurses who agree to serve in the Selected Reserve. The Reserve ANC also offers an accession bonus of \$5,000 per year for up to three years of Selective Reserve duty. This year, 283 officers have received this incentive. New Reserve ANC officers may take advantage of both of these programs sequentially, but not in combination. The Specialized Training Assistance Program (STRAP), which provides a monthly stipend of \$1,279, is available only to officers enrolled in nurse anesthesia and critical care masters of science in nursing programs. Currently, there are 120 officers receiving STRAP. All are nurse anesthesia students. STRAP for bachelors of science in nursing programs is currently being staffed at Department of the Army. It is anticipated that it will be available in fiscal year 2006.

*Question.* Can you describe the effects continued deployments have had on staffing for Medical Treatment Facilities?

*Answer.* The effects continued deployments have had on staffing for Medical Treatment Facilities are numerous. Military hospitals are not receiving nursing replacements at the same ratio as those nurses deploying and overtime for government service employees is not mandatory. Therefore, military nurses are required to work additional and many times erratic hours to maintain the same level of healthcare services offered to our beneficiary population. Army Nurse Corps exit surveys reveal lack of compensation for extra hours, not enough time spent with family and likelihood of deployment as "extremely important" reasons for leaving active service. In a recent report commissioned by the United States Army Accession Command, reducing the length/frequency of overseas deployments has the greatest impact on nurse accessions.

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### QUESTIONS SUBMITTED BY SENATOR BARBARA A. MIKULSKI

#### NURSING SHORTAGE

*Question.* How many military nurses do you have on active duty? How many civilian nurses are employed by your service? How many nurses in the Guard and Reserves?

*Answer.* The Army Nurse Corps currently has 3,105 nurses on active duty; the Army Medical Department had 3,025 civilian registered nurses employed; the Army National Guard had 651 nurses, and; the Army Selective Reserve had 5,554 nurses.

*Question.* What is the deficit/shortage for each, between number on duty compared with the number you have authority to hire?

*Answer.* The Army Nurse Corps deficit for the Active Component is 301 nurses. This figure is derived from subtracting current active duty nurse inventory from 3,406 authorizations. As of March 31, 2005, there were 337 open recruitment actions for civilian registered nurse positions with the Army Medical Command. The Army National Guard deficit is 26 nurses. This figure represents the difference between reported inventory and 677 authorizations. Army Nurse Corps Selective Reserves deficit is 270 nurses, the difference between current inventory and authorizations.

*Question.* What is the average number of years of service for active duty nurses? Guard and Reserve nurses?

*Answer.* The average number of years of service for an active duty nurse is 8 years. The average number of years of service for National Guard is 18.0 and for the Reserves is 15.3 years.

#### NURSING EDUCATION

*Question.* What percent of your nurses get a graduate degree at USUHS? What percent of your nurses get a graduate degree somewhere other than USUHS?

*Answer.* As of May 31, 2005, 880 Army Nurse Corps officers possess a Master's degree, of those 8 percent hold a Master's degree from USUHS. Ninety-two percent possess a Master's Degree from an institution other than USUHS. The Army Nurse Corps is allotted a set number of seats in each of the three graduate nursing programs offered at USUHS. Officers interested in obtaining a Masters degree in a field offered through USUHS must attend USUHS and may not attend a civilian institution through the Long Term Health Education and Training (LTHET) program. The Army consistently fills the seats it is allotted at USUHS. In 2004, the

Army Nurse Corps requested and was granted an expansion to double the number of seats in the Family Nurse Practitioner Program from 7 to 14.

*Question.* Does the military pay for advanced degrees for military nurses (at USUHS or elsewhere)?

Answer. Each year the Army Nurse Corps sends 70–90 officers to complete graduate studies at USUHS or at a civilian institution through LTHET.

*Question.* What is the average level of education for Military nurses? Civilian nurses?

Answer. The average level of education for the Active Component Army Nurse Corps is a Bachelor's of Science in Nursing degree or Bachelor's of Science degree with a major in nursing. The average level of education for Civilian nurses is an Associate Degree in Nursing.

#### NURSING EXPERIENCE

*Question.* What percent of your nurses come directly from nursing school, and what percent are experienced in nursing when they join the military? What percent of your nurses are prior service (in any specialty)? What percent are prior service and from another service (e.g., former Army nurses now working for the Navy)?

Answer. All active duty officers complete college or university prior to their accession. Over the past five years, seventy-six percent of newly assessed Army Nurse Corps officers are new college/university graduates and twenty-four percent have at least one year of nursing experience. Forty-five percent of Active Component Army Nurse Corps officers have prior service experience. Eight percent of Active Component Army Nurse Corps officers served in another service prior to becoming an Army Nurse Corps officer.

#### NURSING DEPLOYMENTS

*Question.* Where/how are your nurses currently deployed?

Answer. In the interest of answering this question thoroughly and as succinctly as possible the word “deployed” is defined as a nurse drawing hazardous fire pay in a theater of operations. Army Nurse Corps officers are deployed in support of both Operation Enduring Freedom in Afghanistan and Operation Iraqi Freedom in Iraq/Kuwait. These officers deploy as nurses in Brigade and Division Support Medical Companies; in Corps-level Area Medical Support Companies; in Forward Surgical Teams; in Combat Support Hospitals, and; as Chief Nurse in a Corps/Theater-level Medical Brigade/Medical Command and Control unit.

*Question.* How often are Reserve/NG nurses activated?

Answer. The current rotation policy for Army Reserve and Army National Guard units, specified in the Personnel Policy Guidance (PPG) of the Army, is a 1 year mobilization followed by 3 years of stabilization. The objective set by the Chief, Army Reserve and the Department of Defense is a 6 year rotation, 1 year mobilization and 5 years dwell time. Certified Registered Nurse Anesthetists deploy under the Army's 90-Day Boots-on-the-Ground policy—a 120-day mobilization (no more than 90-days deployed) followed by at least 12 months stabilization. This policy was introduced to help retain critical wartime surgical specialties. According to information from the Army Reserve 1,272 nurses have been mobilized since November 2001.

#### CIVILIAN NURSES

*Question.* Are civilian nurses used any differently than military nurses?

Answer. Civilian nurses are utilized based on the job description and scope of practice. Unlike military nurses they do not deploy or have additional military training requirements. Civilian registered nurses (Civil Service Employees) are available to pull on-call schedules, work weekends, holidays and perform overtime within budgetary feasibility.

*Question.* Do they fall under the same pay scale as military nurses? What about retirement benefits?

Answer. Civilian nurses do not fall under the same pay scale as military nurses. Civilian nurses are paid based on the Department of Defense General Schedule pay system. Civilian nurses receive the same retirement benefits as all other Title 5 Federal civilian employees.

*Question.* What is the relationship between AC military and civilian nurses, and their counterparts in the Guard and Reserves?

Answer. Active component military and civilian nurses and their counterparts in the Guard and Reserves are invaluable members of the healthcare team. Overall a very good working relationship exists between our Active and Reserve Components and civilian nurses. The Guard, Selective Reserve, and civilian nurses support our ability to provide quality nursing care.



*Question.* What is the average number of years a civilian nurse is employed by the military health care system (is there a high turnover?)

*Answer.* The average number of years a civilian nurse is employed by the military health care system is 9.9 years. The U.S. Army Medical Command Civilian Personnel Office defines turnover rate as losses/prior year-end strength. The turnover rate for civilian registered nurses is 17–20 percent. The replacement rate is calculated as the number of fiscal year fills divided by prior year-end strength. The fiscal year 2004 Replacement Rate was 34 percent.

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QUESTIONS SUBMITTED TO REAR ADMIRAL NANCY J. LESCAVAGE

QUESTIONS SUBMITTED BY SENATOR TED STEVENS

RECRUITING AND RETENTION

*Question.* How does the Uniformed Services University of the Health Sciences support military nursing?

*Answer.* Programs within the Uniformed Services University of the Health Sciences Graduate School of Nursing (USUHS GSN) have been successful in meeting our Navy Nursing specialty requirements. In fact, the Navy Nurse Corps requires all applicants for Family Nurse Practitioner, Perioperative Nursing, and Nurse Anesthesia Master's Degree Programs to seek admission to USUHS GSN as one of their two schools of choice.

Our graduating nurses have reported that the graduate level education and clinical experiences obtained at the USUHS GSN are of the highest caliber, enhancing their medical readiness. During their program, our students report extreme satisfaction with the advanced professional clinical competencies they attain and the incorporation of military relevant practice and mission requirements into the curriculum (not available in civilian university programs). In addition, gaining commands report that these graduates meet credentialing requirements quickly and demonstrate the highest levels of clinical competencies.

Of particular note, our first two Navy Nurses began the newly established Nursing Ph.D. Program this past fall on a full-time basis. In our vision, these graduates will take on the ultimate executive positions to create health policies, advance research and improve delivery systems. Their valued experience will be critical to advance and disseminate scientific knowledge, foster nursing excellence, and improve clinical outcomes across Navy Medicine and Federal agencies.

*Question.* With the current nursing shortage nationwide, and continued need for medical support at home and overseas, what is the status of your recruiting and retention efforts?

*Answer.* Navy Nurse Corps' recruitment efforts include a blend of diverse accession sources. Our successful pipeline scholarship programs (Nurse Candidate Program, Medical Enlisted Commission Program, Reserve Officer Training Corps, and Seaman to Admiral Program) account for 65 percent of our active duty staffing requirements. The remainder (35 percent) is acquired through direct accession and reserve recalls.

For the first time in ten years, we only attained 68 percent of our fiscal year 2004 recruitment goal, acquiring 63 out of 92 nurses. As of March 2005, we have attained 21 percent of our fiscal year 2005 recruitment goal, which is 6 percent less than our recorded status during the same month of last year. As a result, we carefully monitor our progress on a weekly basis.

Our overall retention rate remains stable at 91 percent. Various retention initiatives include: graduate education and training programs, pay incentives, operational experiences, and quality of life issues (mentorship, leadership roles, promotion opportunities, job satisfaction, and full scope of practice). By the end of fiscal year 2005, based on projected gains and losses, we anticipate a deficit of 137 with a billet authorization of 3098 (96 percent end strength).

*Question.* Can you describe the effects continued deployments have had on staffing for Medical Treatment Facilities?

*Answer.* In sync with Navy Medicine's priority of delivering quality and cost-effective health care, our Navy Nurses span the continuum of care from promoting wellness to maintaining the optimal performance of the entire patient. With the deployment of over 400 Active Duty Navy Nurses along with the mobilization of Reserve Nurses to support our Military Treatment Facilities (MTFs), there has been neither a reduction of inpatient bed capacity nor an increase of network disengagements. Military (active and mobilized reserve components) and civilian nurses who remained at the homefront continued to be the backbone and structure

in promoting, protecting and restoring the health of all entrusted to our care. Our success is attributed to innovative health services programs and joint partnerships across our MTFs. Ultimately, all MTFs do everything possible to conserve and best utilize the remaining medical department personnel through appropriate resource management practices (i.e. leave control, overtime compensation, streamlined hiring practices).

Through an active Patient Safety Program, our military, civil service and contract personnel constantly monitor the safe delivery of patient care. In maintaining consistent superior quality of services, we utilize research-based clinical practices with a customized population health approach across the entire health care team. In addition, we maximize our innovative health services programs and joint partnerships across our military treatment facilities.

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#### QUESTIONS SUBMITTED BY SENATOR BARBARA A. MIKULSKI

##### NURSING SHORTAGES

*Question.* How many military nurses do you have on Active Duty?

*Answer.* As of March 2005, there were 2,948 Active Duty Navy Nurse Corps Officers.

*Question.* How many civilian nurses are employed by your service?

*Answer.* Currently Navy Medicine employs 1,210 Registered Nurses (GS-610); 305 Practical Nurses (GS-620); and 12 Nursing Assistants (GS-621).

*Question.* How many nurses in the Guard and Reserves?

*Answer.* The Navy is not organized like the Air Force or Army, and does not have a Guard Component. The Reserve Component of the Navy Nurse Corps, as of the end of March 2005, had a total end-strength of 1,718 officers.

*Question.* What is the deficit/shortage for each, between number on duty compared with the number you have authority to hire?

*Answer.* We have 3,098 authorized Active Duty Nurse Corps Billets. As of March 2005, we had 2,948 billets filled for a deficit of 150 Nurse Corps Officers. As of March 2005, the authorized number of billets for the Reserve Nurse Corps is 1,370. There are 1,718 Reserve Nurse Corps Officers for a total of 348 over our end strength.

*Question.* What is the average number of years of service for Active Duty nurses? Guard and Reserve nurses?

*Answer.* The average number of years of commissioned service for Active Duty nurses is 9 years. The average number of years of total Active Duty service (commissioned and enlisted years) is 12 years. The average number of total years served (enlisted and commissioned) for Reserve Nurse Corps officers is 16.13 years.

##### EDUCATION

*Question.* What percent of your nurses get a graduate degree at USUHS?

*Answer.* In calendar year 2004, there were 5 nursing graduates from USUHS or 7.0 percent of the total (71) Active Duty Navy Nurse Corps graduates in 2004. In 2005, the number of Navy students graduating from USUHS is also 5 or 7.0 percent of the total (70) Active Duty Navy Nurses expected to graduate. This year we are increasing the number of students attending USUHS. There will be a total of 24 students attending USUHS beginning fiscal year 2006.

*Question.* What percent of your nurses get a graduate degree somewhere other than USUHS?

*Answer.* In the calendar year 2004, 66 Active Duty Navy Nurse Corps Officers received graduate degrees outside of USUHS. This is 93 percent of the total (71) Active Duty Navy Nurse Corps graduates in 2004. For 2005, we anticipate 65 graduates from universities outside of USUHS. This is 93 percent of the total (70) Active Duty Navy Nurse Corps graduates.

*Question.* Does the military pay for advanced degrees for military nurses (at USUHS or elsewhere)?

*Answer.* Although a few nurses join the Navy with advanced degrees, the Navy Medical Education and Training Command is budgeted to fund approximately 75 graduate nursing students each year. This "Duty Under Instruction" scholarship program allows the Navy Nurse Corps to prepare Advanced Practice Nurses (APN), Clinical Nurse Specialists (CNS) and Certified Registered Nurse Anesthetists (CRNA). These scholarships pay for the advanced training needed to support caring for those in harm's way.

*Question.* What is the average level of education for Military nurses? Civilian nurses?

Answer. Beginning fiscal year 2005, the level of education for Active Duty military nurses was 64 percent BSN, 30 percent MSN, 0.6 percent Doctorate and 5 percent in graduate school. While aggregate data is not available on the education levels of our civilian nurses, they are graduates of two year community college programs, three year hospital based diploma programs, and the majority are four year college graduates.

#### EXPERIENCE

*Question.* What percent of your nurses come directly from nursing school, and what percent are experienced in nursing when they join the military?

Answer. In fiscal year 2004 we had 223 accessions to Active Duty. Of these, 38 had some experience (17 percent) and the remainder (185) were new graduates directly from school (83 percent).

*Question.* What percent of your nurses are prior service (in any specialty)?

Answer. Approximately 45 percent of the 2,948 Nurse Corps Officers on Active Duty as of March 2005 have at least 12 months or more of prior service. This is a result of the excellent pipeline (enlisted to officer) programs in the form of scholarships, that add stability to our numbers. This is particularly evident in readiness essential specialties such as the Certified Registered Nurse Anesthetist (CRNA) community. In this specialty, 68 of 146 CRNA's (47 percent) are prior service.

*Question.* What percent are prior service and from another service (e.g., former Army nurses now working for the Navy)?

Answer. Of the 2,948 Navy Nurses on Active Duty as of March 2005, six (0.2 percent) are inter-service transfers. Since the year 2000, the Navy Reserve has had a total of 37 inter-service transfers which represents about 2 percent of our total reserve end-strength.

#### DEPLOYMENTS

*Question.* Where/how are your nurses currently deployed?

Answer. Navy Nurses have deployed this past year throughout the world to Kuwait, Iraq, Djibouti, Afghanistan, Bahrain, the Philippines, Thailand and Guantanamo Bay, Cuba. During these deployments they support our operational and humanitarian mission via Surgical Companies, Surgical Teams, Shock Trauma Platoons, the Forward Resuscitative Surgical System, Fleet Hospitals, Expeditionary Medical Facilities, on both Navy and Hospital Ships, and our Medical Treatment Facilities abroad.

*Question.* How often are Reserve/NG nurses activated?

Answer. As of December 2004, a total of 385 nurses have been activated for Operation Iraqi Freedom. This represents a total of 23 percent of the Reserve Nurse Corps End-Strength. Current Secretary of the Navy policy allows for a non-voluntary recall for up to 24 months. Most officers are recalled for a period of one year, with an option to serve a second year as needed.

#### CIVILIAN NURSES

*Question.* Are civilian nurses used any differently than military nurses?

Answer. Essentially, civilian nurses are hired primarily for their clinical expertise. All civilian nurses are hired with a minimum three years clinical experience, so they supply an immediate clinical support for all of our specialty areas. However, since we have a greater deployment requirement for some specialties such as perioperative, critical care, anesthesia, emergency/trauma, psychiatric/mental health and surgical nursing, there are often more military nurses in these specialties. Consequently, there are often more civilian nurses working in clinical areas such as obstetrical, maternal-infant, pediatrics and newborn nursery.

*Question.* Do they fall under the same pay scale as military nurses?

Answer. Civilian nurses are paid under separate pay scales based on the General Schedule or special salary rates established by the Office of Personnel Management (OPM) or the Department of Defense under an agreement with OPM to use certain pay flexibilities granted to the Veterans Administration. For the most part, civil service Registered Nurses are paid in the range of \$64,000 to \$80,000 for base salary.

*Question.* What about retirement benefits?

Answer. Civil service nurses are covered by two retirement plans based on when they entered the federal service. Both are contributory plans and require the employee to make contributions from pay toward their retirement.

—Civil Service Retirement System—is basically a single contributory, self-insured program supplemented by the non-matched Thrift Saving Plan.

—Federal Employees Retirement System—is a combination of social security, small basic annuity and the Thrift Saving Plan (with some matching contributions).

*Question.* What is the relationship between AC military and civilian nurses, and their counterparts in the Guard and Reserves?

*Answer.* In support of the One Navy Medicine concept, the integration of active, reserve and civilian nurses renders a more effective, efficient and fully mission-ready nursing force both at home and abroad. With the deployment of over 400 Active Duty Nurses along with the mobilization of Reserve Nurses to support our Military Treatment Facilities, this concept of integration has allowed our civilian staff, reserve backfill and Active Duty nurses to work seamlessly to care for all of our beneficiaries.

*Question.* What is the average number of years a civilian nurse is employed by the military health care system (is there a high turnover?)

*Answer.* With the keen competition for nurses in many of the more populated areas, nurses will move from hospital to hospital based on salary. Turnover is a continuing challenge, but with the flexibilities in hiring and compensation, we seem to be competitive. At any one point in time, there are approximately 50 civilian nurse vacancies, or 4.0 percent of the 1,210 total Registered Nurse positions.

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#### QUESTIONS SUBMITTED TO MAJOR GENERAL BARBARA C. BRANNON

##### QUESTIONS SUBMITTED BY SENATOR TED STEVENS

###### RECRUITING AND RETENTION

*Question.* How does the Uniformed Services University of the Health Sciences support military nursing?

*Answer.* The Uniformed Services University of the Health Sciences (USUHS) is committed to providing excellence in graduate nursing education to prepare advanced practice nurses for the delivery of healthcare during peace, disaster response, homeland security threats and war. The Graduate School of Nursing (GSN) faculty and staff have an exceptional blend of experience in the military and/or the federal health care systems, and are prepared to provide a distinctly unique educational experience that cannot be found at other universities. The GSN signature curriculum is specifically designed to prepare nurses for advanced practice and research roles in support of Active Duty members of the uniformed services, their families and all other eligible beneficiaries. This curriculum for graduate students includes operational readiness, evidence-based practice, population health outcomes, force health protection, federal health care systems, as well as leadership.

The Perioperative Clinical Nurse Specialist (PCNS) Program (the newest Master's program) prepares graduate nurses for clinical practice, management, leadership, research, teaching and consultation in advanced practice roles within the perioperative environment. This is the only program of its kind in the United States focused totally on perioperative practice and administration. Military unique aspects of the curriculum stresses concepts directed toward delivering perioperative care in both the military and federal health care system with a strong focus on patient safety research and care in austere environments. USUHS graduates are uniquely qualified to provide quality care in a variety of settings to include peacetime and wartime environments.

The Registered Nurse Anesthesia (RNA) Program is dedicated to providing highly qualified nurse anesthetists for the uniformed services. The uniformed services require graduates independently provide quality anesthesia care in diverse settings. The military unique curriculum is specifically designed to integrate scientific principles of anesthesia theory and practice, stressing the unique features of operational readiness throughout the curriculum to prepare nurse anesthetists ready to deploy immediately upon graduation. USUHS Graduate School of Nursing students deploy up to six months earlier than graduates from other RNA programs.

The rigorous curriculum of the Family Nurse Practitioner (FNP) Program at USUHS prepares graduate nurses for advanced practice roles in the federal sector. Their curriculum is more heavily weighted in diagnostic reasoning and clinical decision-making since they practice more autonomously in remote settings. In addition, the military unique program includes field training to prepare nurses to support combat casualties in deployed environment. Like the PCNS and RNA students, FNP students graduate with a full complement of operational readiness skills and can deploy immediately upon graduation.

The Uniformed Services University also prepares military and federal health nurses through doctoral education to research subjects from operational readiness and deployment health to patient safety and population health and outcomes management. This operational plan for research has been lauded by the Federal Nursing Service Chiefs, members of the USUHS Board of Regents, as well as the Assistant Secretary of Defense/Health Affairs.

Operational readiness research areas at both the master's and doctoral level include Active Duty, Reserve and Guard fitness, health systems readiness, chemical, biological, radiological, nuclear and high-yield explosives (CBRNE) defense, decision support and validation of readiness training. Research also focuses on war injuries, care of amputees, women's health in the deployed environment and stress and coping in military families. Patient safety research is aimed at addressing scientific inquiry in the areas of health literacy and safety in the emergency room and/or operating room. Finally, research in the domain of genetics examines the latest in genetic testing and newborn screening.

The Uniformed Services University provides the nation with premier nurses dedicated to career service in the Department of Defense and the United States Public and Federal Health Services. The curriculum includes military unique content that is not presented at civilian universities.

*Question.* With the current nursing shortage nationwide, and continued need for medical support at home and overseas, what is the status of your recruiting and retention efforts?

Answer. The nursing shortage continues to pose enormous challenges in supplying our demand for military nurse accessions and sourcing civilian nursing workforce. A robust recruiting program is essential to sustain the Air Force Nurse Corps. We have consistently been below our goals: 78 percent in fiscal year 2001, 67 percent in fiscal year 2002, 79 percent in fiscal year 2003, and 71 percent in fiscal year 2004. Our fiscal year 2005 recruiting goal is 357 nurses and it appears we will end the year around 70 percent of that goal. We use the Health Professions Loan Repayment Program (HPLRP), accession bonuses and ROTC scholarships to recruit top quality nurses.

Our most successful tool for recruiting novice nurses has been the HPLRP. In fiscal year 2004, we filled 118 quotas of up to \$28,000 each. For fiscal year 2005, we could only fund 26 HPLRPs, leaving the accession bonus as the only financial incentive available. We increased the accession bonus from \$10,000 to \$15,000 for a four-year commitment. This has been moderately successful. We are currently formulating programs to use the National Defense Authorization Act 2005 authority to offer an accession bonus with a three-year commitment.

We have increased nursing Air Force ROTC quotas for the last two years and filled 100 percent of our quotas. We added additional ROTC scholarships for fiscal year 2005, increasing our quota from 35 in fiscal year 2004 to 41. We are also enhancing our "grow our own" nurses from our enlisted corps. We revised the eligibility requirements for the Airmen Enlisted Commissioning Program (AECPP) to increase the pool of enlisted to complete a Bachelor of Science in Nursing while on active duty. Following graduation they commission into the Air Force Nurse Corps. We have accessed 24 nurses through this program since its inception in fiscal year 2001.

Advanced practice nurses are difficult to recruit. We primarily meet our requirements by training our active duty nurses in advanced specialties. We offer financial incentives to retain board certified nurse practitioners, certified nurse midwives and certified registered nurse anesthetists (CRNAs) consistent with our sister services. Advanced practice nurses earn an additional \$2,000 per year for less than ten years of experience. In fiscal year 2000 we increased the CRNA special pay to \$6,000 per year while they complete any time commitment for training. For those without a training commitment we increased the rate in fiscal year 2005 up to \$25,000 per year for a three-year commitment. As a result, retention rates for CRNAs have increased from a low of 81 percent for fiscal year 2000 to 88 percent for fiscal year 2004.

The nationwide nursing shortage has also affected our ability to recruit civilian nurses. While the direct hire authority has significantly improved the hiring process for nurses, numerous positions remain unfilled in select areas of the country. The retention of these nurses has also proven to be a challenge. We have difficulty competing with civilian facilities that continue to offer more attractive incentive packages.

While this continues to be a challenging time for recruiting, our retention has been excellent. We have averaged a loss rate of just over eight percent in the last ten years. Our nurses enjoy the opportunity for professional development including the opportunity to apply for advanced degree programs. They also recognize the pro-

motion and leadership opportunities available in the Air Force that are not as common in the civilian sector. Our nurses are some of our best recruiters as they tell their stories and share their experiences. We continue to advertise our great quality of life and career opportunities, as we remain focused on attracting top quality baccalaureate nurses and nurturing them into tomorrow's nursing leaders.

*Question.* Can you describe the effects continued deployments have had on staffing for Medical Treatment Facilities?

*Answer.* The Air Force Medical Service has been faced with the challenge of providing consistent medical support to each Air Expeditionary Force (AEF) while at the same time maintaining critical home station medical support and formal medical education programs. The solution has been to optimize use of medical center and large hospital staffing to meet most AEF requirements. This has multiple benefits including the ability to provide a constant, predictable, measurable level of support (same hit for medical treatment facility in every bucket). This also allows for better programmatic adjustments as well as increased ability to capitalize on resourcing investments and enhancement of medical education and training.

While this process has been successful in anticipating the requirements for deployment, several additional challenges have come to light. These include tasking for already stressed medical Air Force specialties, e.g., Critical Care, Surgical Specialties, Mental Health, and Independent Duty Medical Technicians. Also, the Air Force has been asked to fill some billets, e.g., Combat Stress Teams, Preventive Medicine Teams, Detainee Health Team and others. These additional taskings are met within the AEF cycle when possible to maintain a predictable level of support. When this cannot be accomplished, additional deployable assets may be tasked. Another solution has been to use Air Force medics that have not previously been considered deployable for medical reasons to fill assignments such as staff positions to backfill personnel at either Air Force facilities that deploy personnel or to deploy forward. Air Force medics who might not be able to deploy forward have also been tasked to fill slots at Army facilities such as Landstuhl in Germany and Tripler Army Medical Center in Hawaii.

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#### QUESTIONS SUBMITTED BY SENATOR BARBARA A. MIKULSKI

##### NURSING SHORTAGES

*Question.* How many military nurses do you have on active duty?

*Answer.* There are 3,673 nurses on active duty as of April 30, 2005.

*Question.* How many civilian nurses are employed by your service?

*Answer.* The number of civilian nurses currently employed by Air Force is 740.

*Question.* How many nurses in the Guard and Reserves?

*Answer.* There are currently 797 nurses in the Air National Guard and 2,062 in the Air Force Reserve.

*Question.* What is the deficit/shortage for each, between number on duty compared with the number you have authority to hire?

*Answer.* The deficit/shortage between number of nurses on duty compared to the number we have the authority to hire for Active, Guard, Reserve, and Civilian is as follows:

Active Duty deficit/shortage equals 277 out of 3,673.

Guard deficit/shortage equals 120 out of 797.

Reserve deficit/shortage equals 106 out of 2,062.

Civilian deficit/shortage equals 28 out of 740.

*Question.* What is the average number of years of service for active duty nurses? Guard and Reserve nurses?

*Answer.* The average number of years of service for Active Duty nurses is 11 years, while the average number of years of service for Air National Guard and Air Force Reserve nurses is 15 years.

##### EDUCATION

*Question.* What percent of your nurses get a graduate degree at USUHS?

*Answer.* Currently, 2 percent (92) of all nurses on active duty (3,675) have a graduate degree from the USUHS. On average, 45.6 percent (26) of all nurses are selected each year for Air Force-sponsored education opportunities to attend the USUHS in the following programs: Masters of Science in Nursing (MSN); Family Nurse Practitioner MSN; Perioperative Clinical Nurse Specialist; MSN Nurse Anesthesia; Doctorate (PhD), and Nursing Science.

*Question.* What percent of your nurses get a graduate degree somewhere other than at USUHS?

Answer. We currently have 1,443 Nurses with Masters Degrees in the Air Force. The breakdown is as follows: 915 Other (on their own)—63.4 percent; 407 AFIT (Air Force Institute of Technology) sponsored—27.0 percent; 92 USUHS—7.6 percent; 21 Tuition Assistance—1.4 percent; 6 HPSP (Health Professions Scholarship Program)—0.4 percent; 1 VEAP (Veterans Education Assistance Program)—0.06 percent; and 1 Education Delay—0.06 percent.

We currently have 14 Nurses with Ph.D.s in the Air Force. The breakdown is as follows: 6 AFIT sponsored; and 8 Other (on their own).

There are currently three Air Force students enrolled in the Ph.D. program at the USUHS.

*Question.* Does the military pay for advanced degrees for military nurses (at USUHS or elsewhere)?

Answer. The Air Force has several programs to assist nurses in pursuing advanced degrees. In fiscal year 2004 we selected 57 nurses for education opportunities. Of these, 31 attended civilian institutions for programs not offered at the USUHS. These students are sponsored by the Air Force Institute of Technology. The remaining 26 nurses selected attended the USUHS. The Air Force also offers tuition assistance for Airmen that choose to pursue programs during off-duty time. Officers can receive up to \$4,500 per fiscal year for courses that lead to an advanced degree. We also offer scholarships for nurses interested in nurse anesthesia and women's health through the Health Professions Scholarship Program.

*Question.* What is the average level of education for Military nurses? Civilian nurses?

Answer. All nurses in the Air Force Nurse Corps hold a bachelors degree in nursing. Of these, 39.3 percent (1,443) also hold a masters degree and 0.4 percent (14) hold a Ph.D.

According to the most recent data from the American Association of Colleges of Nursing, in the year 2000, 34 percent of nurses in the civilian sector hold an associates degree in nursing (ADN), 22 percent practice with a diploma, and 43 percent hold a bachelors degree in nursing. Only 9.6 percent hold a masters degree and 0.6 percent hold a Ph.D. According to the U.S. Department of Health and Human Services, only 16 percent of ADNs obtain a post-RN nursing or nursing-related degree.

#### EXPERIENCE

*Question.* What percent of your nurses come directly from nursing school, and what percent are experienced in nursing when they join the military?

Answer. Nurses are considered inexperienced until they have practiced for one year. Experienced nurses, on the other hand, have worked in clinical nursing for more than one year or have trained in a specialized area. Over the last four years, the percentage of inexperienced nurses recruited has steadily increased. In fiscal year 2001, these nurses comprised 22.8 percent of all new accessions with experienced nurses constituting the remaining 77.2 percent. By the end of fiscal year 2004 the percentage of inexperienced nurses increased to 39.3 percent of all nurses recruited, bringing the four-year average to 30.9 percent. The four-year average for experienced nurses fell to 69.1 percent.

*Question.* What percent of your nurses are prior service (in any specialty)?

Answer. Officers in the Air Force Nurse Corps come from a variety of backgrounds. Nurses with prior service in any specialty comprise 25.6 percent of the Air Force Nurse Corps. Of these, one percent are officers commissioned in the Air Force that later transferred to the Nurse Corps. Nurses with prior enlisted service make up 24.6 percent of the Air Force Nurse Corps. From this category, eight percent were prior enlisted in the Air Force and 16.6 percent were prior enlisted in other services, including the Air Force Reserve and Air National Guard.

*Question.* What percent are prior service and from another service (e.g., former Army nurses now working for the Navy)?

Answer. At the end of calendar year 2004, the Air Force Nurse Corps included 392 nurses (10.8 percent) who had been commissioned in a different branch of the military and then transferred to the Air Force. This includes nurses who transferred from the Air Force Reserve and the Air National Guard.

#### DEPLOYMENTS

*Question.* Where/how are your nurses currently deployed?

Answer. The following data is obtained from Deliberate Crisis Action Planning Execution Segments (DCAPES) and is as of May 24, 2005. The data reflects personnel deployed on Contingency/Exercise Deployment (CED) orders at SECRET level and below and includes the type of nurse currently deployed by the area of responsibility of deployment.

AFSC5D	TDY—AOR					Total
	CENTCOM	EUCOM	NORTHCOM	PACOM	SOUTHCOM	
CLINICAL NURSE .....	40	11	13	1	3	68
CN CRITICAL CARE .....	30	15	7	.....	.....	52
CN Womens Health Care Nurse Prac .....	1	.....	1	.....	.....	2
FLIGHT NURSE .....	40	28	45	.....	.....	113
MENTAL HEALTH NURSE .....	2	4	6	.....	.....	12
NURSE-ANESTHETIST .....	7	.....	.....	.....	1	8
NURSING ADMINISTRATOR .....	5	.....	3	.....	.....	8
OPERATING ROOM NURSE .....	19	.....	1	.....	.....	20
NURSE-MIDWIFE .....	.....	.....	.....	.....	1	1
Grand Total .....	144	58	76	1	5	284

*Question.* How often are Reserve/NG nurses activated?

*Answer.* Based on personnel currently assigned to the Selected Reserve (SelRes), there are 2,876 nurses in the SelRes. Of this number, 733 individuals have been mobilized 845 times since September 11, 2001. Specifically, one was mobilized four times; five were mobilized three times; 99 were mobilized two times; and 628 were mobilized one time. The average number of mobilizations per month since September 11, 2001 is approximately 19 (about 11 mobilizations a month during the past 12 months). The peak mobilizations were in February-April, 2003 (490 total; with 232 in March 2003)—of those mobilized, 475 individuals were deployed one or more times. Note: The mobilization data are per the Military Personnel Data System (MilPDS) and the deployment data are per the Deliberate Crisis Action Planning Execution Segments (DCAPES) deployed history file, May, 2005.

#### CIVILIAN NURSES

*Question.* Are civilian nurses used any differently than military nurses?

*Answer.* During peacetime, civilian nurses are used much the same as military nurses. One stumbling block to fully integrating civilian nurses into our nursing teams is the requirement for overtime pay for time worked beyond forty hours. On Air Force hospital inpatient units, nurses are scheduled on 12-hour shifts. The rotation requires the nurses to work four shifts one week and three shifts on the opposite weeks. Civilian nurses would regularly exceed forty hours in a seven-day period and have fewer than forty hours in others. This would increase civilian pay bills. Additionally, when a civilian has a short notice absence, the extra coverage usually falls to the military nurses. This is manageable with a small civilian force; however, scheduling is much more complicated and taxing with a larger civilian force. Civilian nurses are currently assigned to all settings, but in the future will be concentrated in the outpatient clinics. We need to assign military nurses to most of our inpatient and critical care authorizations for currency in wartime clinical skills.

*Question.* Do they fall under the same pay scale as military nurses?

*Answer.* Civilian and military nurses do not fall under the same pay scale. Civilian nurses currently receive their pay based on the General Schedule (GS) for federal employees or a contractual agreement. Pay rates may be adjusted based on locality. The GS rating for nurses may vary due to kind of work (inpatient versus outpatient), specialized skills necessary (intensive care versus inpatient ward), and management responsibilities.

Basic Pay is the fundamental component of military pay. All members receive it and typically it is the largest component of a member's pay. A member's grade (usually the same as rank) and years of service determines the amount of basic pay received. Their basic pay is not affected by the their duty location. The military does offer certification pay for our advanced practice nurses and incentive special pay for our Certified Registered Nurse Anesthetists.

*Question.* What about retirement benefits?

*Answer.* The retirement benefits would be computed using the general formula for the retirement system the employee is covered under the Civil Service Retirement System (CSRS) or the Federal Employees Retirement System (FERS). The formulas for the computation of retirement benefits can be found in the U.S. Office of Personnel Management CSRS and FERS Handbook For Personnel and Payroll Offices available on line at <http://www.opm.gov/asd/hod/pdf/C050.pdf>.

*Question.* What is the relationship between AC military and civilian nurses, and their counterparts in the Guard and Reserves?

*Answer.* Nurses in the Air National Guard (ANG) and in the Air Reserve Component (ARC) are utilized several ways once activated. Some of the nurses are used



to backfill positions vacated by active duty nurses deploying. This role has enabled some facilities to continue to meet their peacetime mission requirements. Other nurses are deployed along with their units. They have manned contingency air staging facilities overseas and stateside. They are also responsible for 88 percent of aeromedical evacuation flights.

While on active duty, ANG and ARC nurses receive the same pay and benefits as their full-time Active Duty counterparts. Civilian nurses receive their pay based on the General Schedule (GS) for federal employees or a contractual agreement.

*Question.* What is the average number of years a civilian nurse is employed by the military health care system (is there a high turnover?)

*Answer.* The civilian nurses currently employed by the Air Force through the military health care system have worked for the Air Force for an average of 8.26 years. The nurses who left Air Force employment between January 1, 2004 and May 1, 2005 had an average of 7.81 years of civilian service some of which may have been performed for other governmental agencies.

#### SUBCOMMITTEE RECESS

Senator STEVENS. The subcommittee will reconvene tomorrow at 10 a.m., in this room to review the Missile Defense Program for 2006. We stand in recess until that time.

[Whereupon, at 11:59 a.m., Tuesday, May 10, the subcommittee was recessed, to reconvene at 10 a.m., Wednesday, May 11.]